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San Francisco Bay Area Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1998 Through June 2009
Fiscal Years 1999 - 2009

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Enclosed for your review and comment are drafts of BART's FY99 Short Range Transit Plan (SRTP) and draft FY99 Capital Improvement Program (CIP).

As part of the process of finalizing these documents, a public meeting is scheduled to be conducted at the August 27, 1998 BART Board of Directors meeting. This meeting will begin at 9:00 a.m. in the BART Board Room at 800 Madison Street, Oakland (located directly above Lake Merritt Station). At that time, verbal comments on the draft SRTP and CIP will be accepted.

Written comments for both documents may be submitted by August 27, 1998 to the following addresses:

Draft FY99 SRTP Comments
BART, MSQ-306
Financial Planning Division
800 Madison Street
Oakland, CA 94607

Draft FY99 CIP Comments
BART, MSQ-302
Capital Budgets Division
800 Madison Street
Oakland, CA 94607

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1999 - 2009

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transit Administration under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

Pamela Herhold and Robert Mitroff

Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

June 11, 1998

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Chapter 1

BART ORGANIZATION

&

SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Voter approval, in 1962, of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology. The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's preliminary FY99 budgeted workforce includes 3,409 full-time equivalent positions, 3,011 of which are for operations and 398 for capital projects. BART's departments are presented in the organization chart in Figure 1-1. The goals of the District are summarized in Figure 1-2.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations, and an administration and operations control center. Capital improvements made over the past 26 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer, and six additional stations. Embarcadero station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996, and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-3.

Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 95 miles of continuously welded, double-mainline, 66-inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, located between Lake Merritt and Fruitvale Stations (Oakland Shops), provides support to buildings, grounds, and equipment other than rail vehicles.

Figure 1 - 1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Fiscal Year 1999

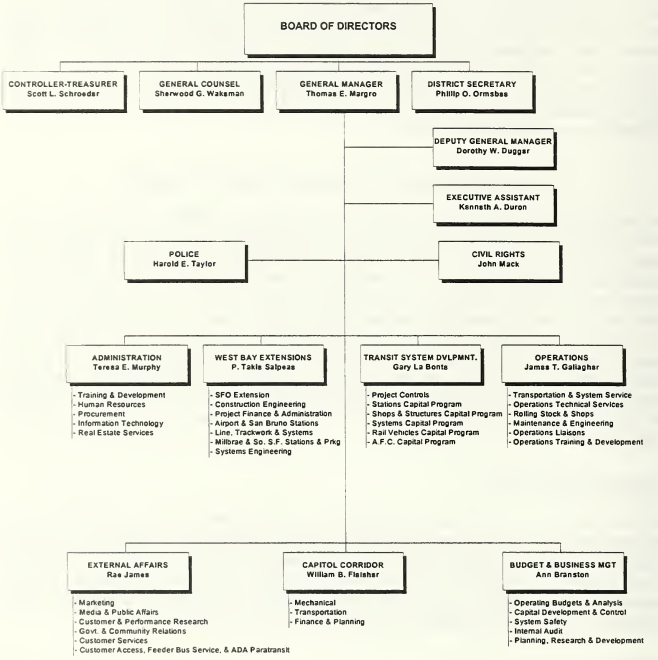


Figure 1 - 2

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

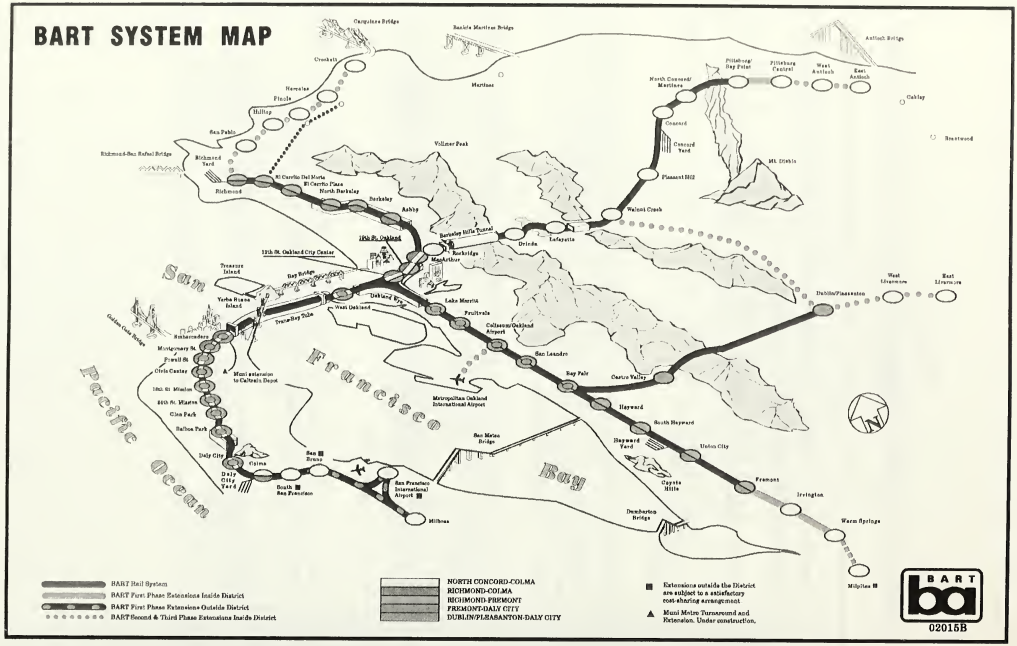
4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.


BART SYSTEM MAP
Carquinez Bridge
Benicia Martinez Bridge
Antioch Bridge
Crockett
Martinez
Pittsburg/ Bay Point
Pittsburg Center
West Antioch
East Antioch
Hercules
Pinole
North Concord/ Martinez
Oakley
Hilltop
Concord
Brentwood
San Pablo
Richmond-San Rafael Bridge
Richmond Yard
Volmer Peak
El Cerrito Del Norte
El Cerrito Plaza
Pleasant Hill
Mt. Diablo
Richmond
North Berkeley
Berkeley
Ashby
Walnut Creek
Berkeley Hills Tunnel
19th St. Oakland
Lafayette
12th St. Oakland City Center
Rockridge
MacArthur
Orinda
Treasure Island
Bay Bridge
San Francisco
Bay Bridge
West Dublin
East Livermore
Yerba Buena Island
Oakland Wye
Lake Merritt
Dublin/Pleasanton
Transbay Tube
West Oakland
Golden Gate Bridge
Fruitvale
Coliseum/Oakland Airport
Embarcadero
Montgomery St.
Powell St.
San Leandro
Civic Center
Muni extension to Caltrain Depot
Bay Fair
Pacific Ocean
16th St. Mission
Ocean
Castro Valley
24th St. Mission
Hayward
Glen Park
Balboa Park
San Mateo Bridge
South Hayward
Daly City
Colma
Union City
Bay
Daly City Yard
San Bruno
Coyote Hills
Fremont
South San Francisco
San Francisco International Airport
Irvington
Millbrae
Dumbarton Bridge
Warm Springs
Milpitas
BART Rail System
BART Fort Phase Extensions Inside District
BART First Phase Extensions Outside District
BART Second & Third Phase Extensions Inside District
NORTH CONCORD-COLMA
RICHMOND-COLMA
RICHMOND-FREMONT
FREMONT-DALY CITY
DUBLIN/PLEASANTON-DALY CITY
Extensions outside the District are subject to a satisfactory cost-sharing arrangement.
Muni Metro Turnaround and Extension. Under construction.
BART
02015B

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars, and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 18 are currently control equipped). A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles.

Trains are operated from the lead A- or C-car and train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center, located in the Lake Merritt Administration Building in downtown Oakland. However, train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 36 miles per hour.

BART is currently renovating all 439 of the A-and B-cars. The renovation program will disassemble and completely repair, upgrade and rebuild the cars, restoring them to like-new condition. Up to 36 vehicles at a time are rotated out of the fleet and placed in production at the ABB Daimler-Benz Transportation, North America, (Adtranz) renovation facility in Pittsburg, California. These vehicles will be unavailable for service for periods of 2 to 18 months each, and the last car is scheduled to return to service in May, 2002.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated, and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators which link various levels to streets, connecting local transit, and parking areas. Automatic fare collection equipment is located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's Operations Control Center (OCC) is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks and lockers, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-4) consists of 41,455 free spaces at 28 stations and 211 spaces at Lake Merritt Station at a daily charge of 25¢.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's OCC and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer provides overall systemwide supervision of train movements 24-hours a day. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-5 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Depending upon demand, additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

Figure 1 - 4

BART PARKING SPACE INVENTORY

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF MAY 98	PLANNED FOR FY99 - FY09	TOTAL PROJECTED BY FY09
SAN FRANCISCO LINE:			
Colma (a)	2,491	0	2,491
Daly City	2,076	0	2,076
Glen Park	54	0	54
West Oakland (b)	419	0	419
Subtotal	**5,040**	**0**	**5,040**
FREMONT LINE:			
Fremont	2,197	0	2,197
Union City	1,196	0	1,196
South Hayward	1,314	0	1,314
Hayward	1,465	0	1,465
Bay Fair	1,639	0	1,639
San Leandro	1,234	0	1,234
Coliseum	1,026	0	1,026
Fruitvale	1,070	0	1,070
Lake Merritt	211	0	211
Subtotal	**11,352**	**0**	**11,352**
RICHMOND LINE:			
Richmond	789	0	789
El Cerrito del Norte	2,247	0	2,247
El Cerrito Plaza (c)	791	500	1,291
North Berkeley	806	0	806
Ashby	570	0	570
MacArthur	608	0	608
Subtotal	**5,811**	**500**	**6,311**
CONCORD LINE:			
Pittsburg/Bay Point	2,032	0	2,032
North Concord/Martinez	1,975	0	1,975
Concord	2,513	0	2,513
Pleasant Hill (d)	3,450	0	3,450
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,385	0	1,385
Rockridge	886	0	886
Subtotal	**15,728**	**0**	**15,728**
DUBLIN/LIVERMORE LINE:			
Castro Valley	1,123	0	1,123
Dublin/Pleasanton	2,612	0	2,612
Subtotal	**3,735**	**0**	**3,735**
EXISTING STATIONS TOTAL	**41,666**	**500**	**42,166**
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	**0**	**5,337**	**5,337**
SYSTEM GRAND TOTAL	**41,666**	**5,837**	**47,503**

(a) Colma Station includes 1,074 spaces in the SamTrans surface parking lot.

(b) A future parking project is subject to reevaluation and identification of a funding source.

(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 1 - 5

BART RAIL HEADWAYS AND HOURS OF SERVICE

May 1998

	TRANSBAY ROUTES				EASTBAY ROUTE	SAN FRANCISCO
	Pittsburg/ Bay Point - Colma	Fremont - Daly City	Dublin/ Pleasanton - Daly City	Richmond - Daly City (a)	Fremont - Richmond	Embarcadero Civic Center
HEADWAYS (minutes)						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY	20.0	(b)	20.0	(b)	20.0	10.0
SERVICE HOURS (time)						
WEEKDAY						
First Train leaves	03:59	05:05 (c)	03:58	04:56 (c)	04:00	04:20
Last Train arrives	01:24	21:23 (c)	01:26	21:01 (c)	01:27	01:07
SATURDAY						
First Train leaves	06:00	08:44 (c)	06:03	07:46 (c)	05:56	06:06
Last Train arrives	01:24	20:29 (c)	01:26	20:09 (c)	01:27	01:03
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:56	08:04
Last Train arrives	01:24	(b)	01:26	(b)	01:27	01:09

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time period. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

BART complies with the Americans with Disabilities Act requirement to provide paratransit service which is comparable and complementary to the BART system. Federal regulations define the ADA paratransit service area as a 0.75 mile radius around a BART station.

To provide effective paratransit service in its widely dispersed service area, BART has established a variety of partnerships with other transit operators. In the joint service area with AC Transit, BART and AC Transit jointly fund and administer the East Bay Paratransit Consortium. In other parts of the BART service area, BART has arranged to provide funding to MUNI, Contra Costa County Transit Authority (County Connections), Eastern Contra Cost Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT) and Livermore Amador Valley Transit Authority (LAVTA). These agencies provide paratransit on behalf of BART at the same time as they provide for their own paratransit obligation.

ADA Paratransit service is available to people who have been certified as being unable to access and ride BART because of their disability. BART participates in a regional eligibility process which is followed by the principal transit operators in the San Francisco Bay Area. Service is provided by both lift vans and sedans. Most of the paratransit programs in which BART participates operate by reservation only. MUNI is the exception in that it also provide for same-day taxi service under a user subsidy program.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-6, with station-to-station fares shown in Figure 1-7. The following presents information on BART fares for rail and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtown's and other local areas. As shown in Figure 1-7, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Starting in September 1998, students between the ages of 13 and 18 will be able to purchase $33 high-value tickets for $25, a 25% discount. The tickets will also include a last-ride bonus. Students will be limited to two tickets per month valid for weekday travel. At the end of six-months, a program review of ridership gain and program cost will be presented to the BART Board.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus, and other Bay Area transit systems which serve BART rail stations.

The ADA limits the fare that can be charged for ADA service to twice the full adult fare for a comparable fixed route trip. Fares for paratransit service provided through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based, and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. Paratransit travel within San Francisco is provided by taxi service at 10% of the meter rate, usually averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00 from MUNI. Paratransit fares in BART's other service areas range from $1.00 to $6.00 per trip.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

As of June 1998

TRIP LENGTH:	Up to 6 miles		$1.10
	Between 6 and 14 miles [1]		$1.34 + 9.9¢/mile
	Over 14 miles		$2.13 + 5.9¢/mile
SURCHARGES:	Transbay		66¢
	San Mateo County [2]		76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time		±3.7¢/minute
RESULTING FARES:	Range [3]		$1.10 to $4.70
	Average fare (before discounts) [4]		$2.39
	Average fare paid (after discounts) [4]		$2.14
RAIL FARE	Children under 5		Free
DISCOUNTS & SPECIAL FARES: [5] (high-value tickets)	Children 5 through 12 (75% discount)		$4.00 ($16 value)
	Persons 65 and over (75% discount)		$4.00 ($16 value)
	Persons w/ qualifying disability (75% disc)		$4.00 ($16 value)
	Students 13 through 18 (25% discount) [6]		$25.00 ($33 value)
	Regular adult (6.25% discount)		$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [7]		$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]		$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [9]	FastPass – (within San Francisco, unlimited monthly use of BART & MUNI)		$35
ONE-WAY TRANSFERS TO: [10] (issued at rail stations)	CCCTA		50¢ ($1.00 base fare)
	Union City Transit		25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [10] (issued at rail stations)	AC Transit:	From BART	$1.00 ($1.25 base fare)
		To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF:	From BART	$1.00 ($1.00 base fare)
		To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station:	From BART	Free ($1.00 base fare)
		To BART	Free ($1.00 base fare)
ADA SERVICE:	East Bay Paratransit Consortium [11]		$2.25 to $6.75
	BART/MUNI Cost-Sharing Agreement [12]		80¢ to 90¢ approximately
	All other areas		$1.00 to $6.00 approximately

Figure 1 - 6

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby, and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI FastPass. The figures shown are for FY98 through March 29, 1998

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek, and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. Students are limited to two tickets per month for weekday travel only and tickets include a last ride bonus.

7. There is a three-hour limit on the excursion fare.

8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara Valley Transportation Authority, Union City Transit, Dumbarton Express, and WestCAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

9. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

10. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

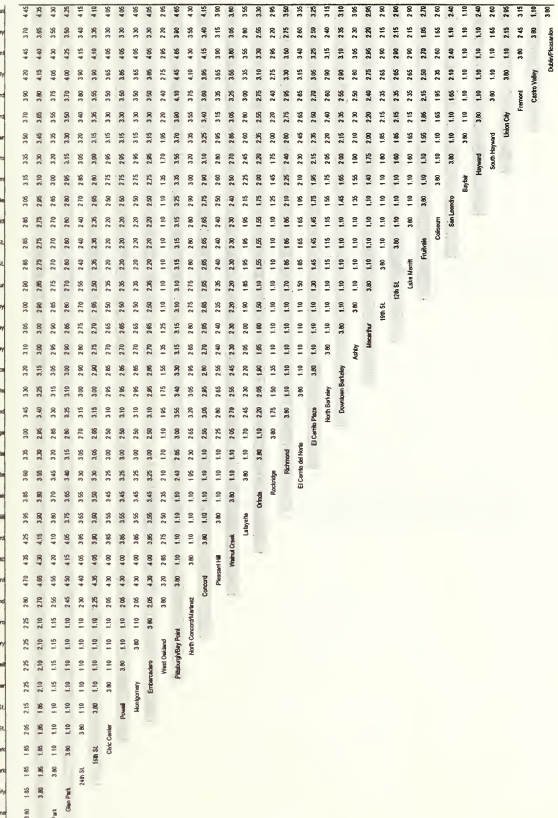
11. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.

12. BART has executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 7

BART INTER-STATION FARES

Effective April 1, 1997



Chapter 2

RIDERSHIP FORECAST

and

PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan (SRTP) period is presented. This is followed by the Rail Service Plan which includes a description of the service developed to accommodate core system and extensions ridership growth. The last section of this chapter describes BART plans for ADA paratransit service.

RAIL RIDERSHIP FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions, and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the San Francisco Airport Extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth Assumptions

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) travel demand model. The Ridership Forecasting Model uses demographic projections for 1995 (as a base year), 2000, 2005, and 2010 for each of MTC's 700 traffic analysis zones (TAZ). Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

An important step in ridership forecasting is to establish the sensitivity of transit ridership to changes in transit fares. BART's most recent fare change, a four-year package adopted by the Board in January 1995, implemented an increase on April 1 of 1995, 1996, and 1997, and no increase on April 1, 1998. The last increase prior to these was on January 1, 1986. Cumulatively, the result was an increase in fares from 1986 to 1998 of 44.7%, less than the 47.1% change in CPI for the same time period. Overall, the fare increases resulted in no long-term appreciable ridership loss. The SRTP ridership forecast, based upon the current fare structure, projects annual and average weekday trips for each fiscal year in the SRTP planning period.

Load Factors

Load factors are measured as the ratio of passengers to seats. The service plans presented in this SRTP should provide sufficient capacity to maintain acceptable load

factors for all peak period trains throughout the ten-year planning horizon. The patronage forecast assumes load factors are not so high as to deter patrons from riding. The service plans developed for this SRTP are designed to provide service such that peak hour transbay load factors for the four routes average 1.35 or less. During the peak of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints.

Historically, the peak hour transbay load factor has ranged from 1.45 in the mid-1980's to an average of 1.25 in the first five years of the 1990s. Recently, as measured in August 1997, transbay load factors averaged 1.16. Fremont to Daly City was the most crowded transbay route, with an average load factor of 1.26.

Average load factors during the two-hour shoulder comprising the remainder of the three-hour peak period are expected to meet the District load factor objective of 1.15 for each route. Offpeak load factors are targeted to average 1.00 or less for each train.

Travel Times

The faster train run times made possible by the 1992 implementation of the System Throughput Enhancement Program (STEP) have been carried forward through FY02. By FY02, Advanced Automatic Train Control (AATC) is expected to be operational on the M-Line (Daly City through West Oakland) and upper A-Line (Bay Fair through West Oakland). Implementing AATC will allow more accurate tracking of trains and support faster run times between stations. With these improvements implemented, train travel times are expected to decrease by several minutes.

Degradation of auto travel times, BART's primary modal choice competitor, is also assumed. This assumption reflects increased highway congestion, as growth in demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel demand model.

Extensions Service

This SRTP's ridership and financial forecasts are based on information available as of March 1998. This includes nearly a full year of ridership at the Castro Valley and Dublin/Pleasanton stations (open May 10, 1997) and over a full year of ridership for the Pittsburg/Bay Point Station (open December 7, 1996). The first two extension stations, North Concord/Martinez and Colma, have been in operation since FY96. The San Francisco Airport Extension of rail service south of Colma Station is assumed to open in FY02, consistent with the adopted project schedule.

The FY99 SRTP ridership and operating financial forecasts reflect only the above rail extensions, and do not include operations of any other rail facilities or services identified in BART's Capital Improvement Program. Those projects include the West

Dublin/Pleasanton Station, Warm Springs Extension, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension, and extensions to points further east in Contra Costa and Alameda counties. The District will continue to seek funding for those projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 41,666 parking spaces. As identified in Figure 1-4, BART plans call for adding 5,337 parking spaces with the opening of the four San Francisco Airport Extension stations in FY02, and 500 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART continues at current levels.

RAIL RIDERSHIP FORECAST

As shown in Figure 2-1, ridership at current fares is projected to increase from a budgeted 79.4 million trips in FY99 to 110.3 million trips in FY09.

Core System Ridership

Using the assumptions outlined above, the resulting ridership forecast projects 93.0 million trips in FY09 for the core system. This 2.3% annual growth from the FY99 preliminary budget of 74.0 million trips reflects growth of extension station riders exiting at core system stations and 1.5% base core system growth.

Extensions Ridership

Ridership for extensions is consistent with the MTC travel demand model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY09, passenger exits at the nine extension stations are expected to be 17.3 million. The incremental ridership for the Phase I rail extensions is summarized as follows:

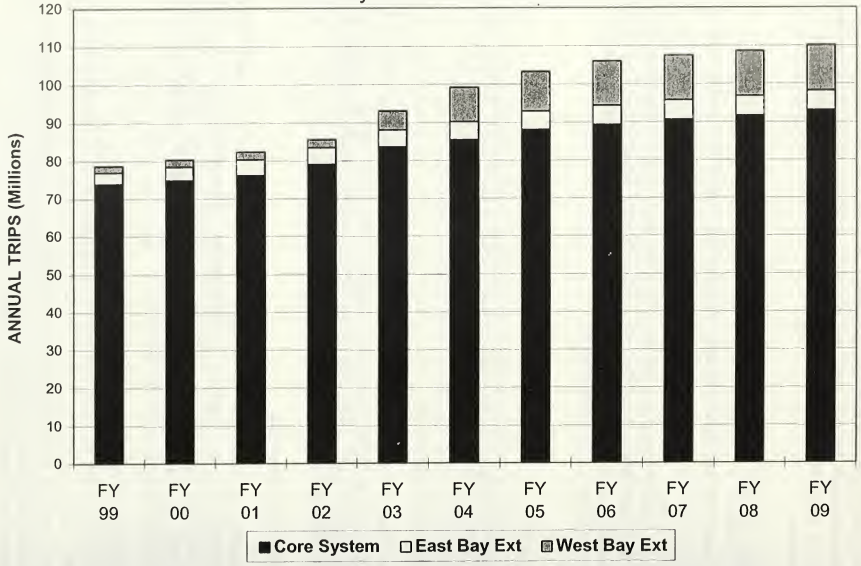
Alameda and Contra Costa County Extensions

Ridership for the four East Bay extension stations (North Concord/Martinez, Pittsburg/Bay Point, Castro Valley and Dublin/Pleasanton) is budgeted at 3.6 million trips in FY99. This figure includes an anticipated 36-month phase-in to Year 2000 ridership levels estimated in each extension's environmental documentation. Ridership for these four stations is forecast to increase to 6.0 million trips in FY09.

Figure 2 - 1

BART RIDERSHIP FORECAST

Core System and Extensions



San Mateo County Extension:

Colma Station is budgeted at 1.8 million trips on BART in FY99. In FY01, the last full year before the start of service to four additional stations along the San Francisco Peninsula, Colma Station ridership is forecast to grow to 2.2 million trips. In FY09, the five Peninsula extension stations south of Daly City are forecast to generate 12.0 million BART trips.

Systemwide Ridership

At the end of this SRTP's planning period, FY09, the BART system will have 43 stations and 101 miles of double mainline track. Systemwide ridership is forecast to increase 38.9%, from a budget of 79.4 million trips in FY99 to 110.3 million in FY09.

RAIL SERVICE PLAN ASSUMPTIONS

BART's *Service Planning Model* is used to project the service plan elements for each fiscal year. The capital improvements in BART's *Capital Improvement Program* (CIP) are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

Key assumptions used to develop rail service plans include the ridership forecasts and constraints such as load factor standards, minimum service headways, train end-to-end run times, and modular train sizing rules. Service plan elements include expected load factors, headways, routes to be operated, number of trains on line, total cars required, control cars required, peak trains on line, number of cars in maintenance, car hours and car miles, and other parameters.

Capital Improvements

Achievement of the service expansion required to handle future patronage is predicated on the timely implementation of BART's Capital Improvement Program as documented in the FY99 CIP. This CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions, and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's FY99 *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Complete renovation the original 439 A- and B-cars.
- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.

- ADA accessibility improvements, including other elevator enhancements, parking, and signs.

- Renovation and replacement of communications and train control systems, including implementation of AATC on the M- and upper A-lines to support two-minute minimum headway capability and faster train run times.

- Renovation and expansion of shops and yards, and replacement of maintenance and other essential equipment.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA). The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The same rail service plans and operating assumptions are developed for both the FMP and the SRTP. The most recent FMP is being updated in conjunction with the FY99 SRTP.

Operating Assumptions

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service will be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-West Bay, Dublin/Pleasanton-West Bay, and Richmond-Fremont.

Service by Route and Extension

BART's *Service Planning Model* was used to establish that the service frequencies and routes outlined here would allow provision of service where and when it is needed. The number of routes on each line of the BART system is both necessary and sufficient to meet future demand.

As demand increases, BART provides additional capacity first by lengthening scheduled trains and then, as headway reduction capability and fleet expansion and availability permit, by adding more trains and adjusting train lengths. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures.

The four-station San Francisco Airport Extension is projected to open in December 2001 (FY02). Service plan options for this extension are being evaluated. For this SRTP, car and train requirements are based on the following service assumptions:

- *YELLOW ROUTE*, Pittsburg/Bay Point-Transbay. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.

- *RED ROUTE*, Richmond-Transbay. Richmond-Transbay service is provided at a minimum weekday base headway of 15 minutes. During the off-peak, service on this route terminates at Daly City Station. Currently, during the peak periods only, service extends south of Daly City Station to Colma Station. With the opening of the SFO Extension, it is anticipated that this route will terminate at Daly City.

- *GREEN ROUTE*, Fremont-Transbay. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE ROUTE*, Dublin/Pleasanton-Transbay. Service is currently provided on this route at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Dublin/Pleasanton. With the opening of the SFO Extension, it is anticipated that this route will extend service south of Daly City at a 15-minute headway.

- *ORANGE ROUTE*, Richmond-Fremont. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE*. A three-car shuttle will be operated between these two stations when service south of Colma opens in FY02.

Line Headways and Train Run Times

Minimum scheduled line headways are currently 2.5 minutes for the Transbay tube, the section of the system with the heaviest train traffic. These current headways reflect the improvements of STEP, which modified the train control blocking system and made other changes to permit closer headways.

BART's *Advanced Automatic Train Control (AATC)*, now under development, will allow trains to follow each other more closely, with a resulting minimum scheduled transbay headway of 2.0 minutes. This improvement will permit a capacity of up to 30 trains per hour in the peak direction. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner, and reducing the number of cars required.

These service plans assume that AATC is installed by FY02 on the M- and upper A-Line (Daly City through Bay Fair). In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors.

In the event that AATC is implemented on additional segments of the BART system, service quality could be further improved due to further reduction in run times, causing a further increase in car availability.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two adjacent stations. The service plans in this SRTP are based on maintaining acceptable peak period load factor conditions on all peak trains. This means systemwide averages no greater than a 1.35 load factor during peak hour operations, and 1.15 during the shoulder periods, and a maximum load factor of 1.00 for each train for off-peak service.

Modular Train Sizing

The service plans also respect *modular train sizing*. BART has developed and uses this operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. Currently, BART sizes trains on a *5/10* and *4/8* basis for transbay service and on a *3/6/9* basis for the Richmond-Fremont East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a 10-car train in half to form two five-car trains, or breaking a four-car train from a eight-car train. On the East Bay route, nine-car trains can be split up into combinations of three- and six-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

Due to fleet size constraints, future train sizing plans include less symmetrical combinations of train lengths such as *5/9* on one or more transbay routes. However, the service plans presented here still assume that there are only two possible train lengths for each transbay route: a peak period length and a midday length.

Captive Fleet Program

BART's *Captive Fleet Program*, which assigns individual cars to a specific maintenance shop, has helped improve vehicle reliability. Accordingly, the service plans presented in this document return cars to the same yard from which they were dispatched earlier in the day.

RAIL SERVICE PLANS

Ridership growth over the SRTP forecast period for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 2-2 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 38.9% gain in ridership, from 79.4 million trips budgeted for FY99 to 110.3 million trips in FY09. Key elements of this expansion plan, the details of which are presented below, call for:

- Increasing BART's fleet from 669 vehicles currently to 697, with receipt of 28 more cars as part of the extension south of Colma to the San Francisco Airport.

- Adding seven trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 63, including one three-car shuttle train from Millbrae Station to the San Francisco Airport.

- Increasing transbay throughput from 21 trains per hour currently to 26 by reducing the system's minimum scheduled headway capability from two-minutes thirty seconds currently, to two minutes or less by with the implementation of AATC.

Car Requirements

The *Service Planning Model* produces the numerical elements of the Fleet Management Plan, including online car requirements, operating spares, number of cars in maintenance, and the number of control cars required. Car requirements are determined based on the need to carry patronage without exceeding load factor standards, subject to operational constraints such as modular train sizing. The number of cars in maintenance is determined from the car hours to be operated and the projected age and rehabilitation status of the fleet. The minimum number of control cars needed is determined based on the maximum train count for each route and the requirement to resize trains from peak service train lengths to midday service lengths.

As shown in Figure 2-2, BART's online car requirements are forecast to increase from 487 currently to 557 with the opening of the SFO Extension, to 569 by FY09, the latest year of this planning document. The SFO Extension project is purchasing 28 C-3 cars, increasing BART's operating fleet to a total of 697 cars. Based on the assumptions used in this forecast, as discussed below and shown in Figure 2-2, BART anticipates having sufficient vehicles to meet projected demand.

Maintenance Requirements

Maintenance is performed seven days a week, three shifts a day at each of BART's four shops. During the first two quarters of FY98, BART had an average of 120 cars not available for service at 4 a.m., due to preventative and unscheduled maintenance. It is projected that the A-and B-car renovation program will reduce the number of incidents requiring maintenance, and the capital investment programmed for BART maintenance

Figure 2 - 2

PEAK PERIOD SERVICE REQUIREMENT

FY98 ACTUAL, FY99 - FY09 PROJECTED

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

		FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
RED	*Richmond*	9	9	9	9	9	9	9	10	10	10	10	10
YELLOW	*Pittsburg/Bay Pt.*	19	19	19	19	22	22	22	23	23	23	23	23
GREEN	*Fremont*	9	9	9	9	9	9	9	9	9	9	9	9
BLUE	*Dublin/Pleas.*	9	9	9	9	10	10	10	11	11	11	11	11
TRANSBAY Subtotal		46	46	46	46	50	50	50	53	53	53	53	53
ORANGE	*East Bay*	10	10	10	10	9	9	9	9	9	9	9	9
MB-SFIA SHUTTLE		---	---	---	---	1	1	1	1	1	1	1	1
SYSTEM TOTAL		56	56	56	56	60	60	60	63	63	63	63	63

TOTAL ONLINE CAR SUMMARY, BY ROUTE

		FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
RED	*Richmond*	90	90	90	90	90	90	90	90	90	90	90	90
YELLOW	*Pittsburg/Bay Pt.*	190	190	190	190	220	220	220	230	230	230	230	230
GREEN	*Fremont*	72	72	72	72	90	90	90	81	81	81	90	90
BLUE	*Dublin/Pleas. (b)*	72	72	72	72	100	100	100	99	99	99	99	99
TRANSBAY Subtotal		424	424	424	424	500	500	500	500	500	500	509	509
ORANGE	*East Bay*	63	63	63	63	54	54	54	57	57	57	57	57
MB-SFIA SHUTTLE		---	---	---	---	3	3	3	3	3	3	3	3
SYSTEM TOTAL		487	487	487	487	557	557	557	560	560	560	569	569

(a) Service levels as of June 30 of each fiscal year.

(b) In FY06, the addition of one extra train on the Blue route during the peak hour balances load factors between the Blue and Green routes and allows both routes to be operated with all nine-car trains.

shops will reduce downtime per incident, thus increasing the number of cars available for service. With these improvements, and the projected expansion of the fleet to 697 by FY02, the number of cars in for maintenance during the SRTP planning period is anticipated to range from 91 to 112.

Yard Logistics Cars

BART allocates a car to each of the Concord, Richmond, Hayward, and Daly City maintenance yards for logistical moves in assembling and disassembling trains. Accordingly, four cars have been carried forward throughout the planning period for this purpose.

Vehicle Renovation Program

Note that, through mid-FY02, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. Once this program is completed in May 2002, the 36 cars will no longer be rotated out the fleet, and will be available to meet increased service needs.

Ready Reserve Cars

Ready reserves are cars used to form trains to be placed in stand-by mode. In the event that operational problems occur, such as a scheduled train being removed from service, a ready reserve train can be dispatched in the empty train slot to maintain scheduled headways and merging. An eight-car ready reserve train is stationed in each of BART's four yards. Service plans presented in this SRTP assume that ready reserve vehicles are to be used in revenue service when car deficits arise, such as when 36 vehicles are out for A- and B- car renovation, or in the event that the planned reduction of cars in maintenance is not achieved. Additionally, forecast growth in demand gradually requires the available vehicles for scheduled service, so ready reserves are reduced from the current level towards the end of the planning period.

ADA PARATRANSIT SERVICE PLAN

BART fulfills its ADA paratransit obligation through a variety of agreements with other transit operators and through participation in the East Bay Paratransit Consortium (EBPC), consisting of BART and AC Transit. By agreement, in the service area of the EBPC, BART and AC Transit jointly administer paratransit service through a contractor. BART assumes 31% and AC Transit 69% of the costs based on their proportionate areas of responsibility. In San Francisco, BART has entered a Memorandum of Understanding (MOU) with MUNI whereby MUNI provides service to meet BART's obligation and BART reimburses MUNI for 8.8% of the paratransit service to all San Francisco riders. Elsewhere, agreements provide for the local operators to receive California Transportation Development Act (TDA) funding as payment for providing for BART's obligation within the 0.75 mile radius of the stations. The local providers with which BART has agreements are: Contra Costa County Transit Authority (County Connections),

Eastern Contra Costa Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT), and Livermore Amador Valley Transit Authority (LAVTA).

The data below summarize BART's share of anticipated annual ridership during FY99.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	223,200
San Francisco MUNI (8.8% of the program total)	104,470
Contra Costa (not including service provided by Fixed Route Operators)	31,345
Other East Bay service	13,548
TOTAL ANNUAL RIDERSHIP	**372,563**

Chapter 3

FISCAL YEAR FORECAST

and

FINANCIAL PLAN

BART's SRTP financial plan for FY99 through FY09 focuses on the fiscal requirements for providing service as described in Chapter 2. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY99 preliminary budget is presented first, and is the foundation for the ten year projections. Following the FY99 preliminary budget is a discussion of the principles used to develop the District's financial forecasts for FY00 through FY09.

It should be noted that the following financial plan includes the impact of the Colma and San Francisco Airport Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996. Analysis indicates that the implementation of the San Francisco Airport Extension, in accordance with the terms of this new agreement, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN -- FY99 PRELIMINARY OPERATING BUDGET

The foundation and starting point for the SRTP ten year financial plan is BART's preliminary budget for FY99, the operating portion of which is summarized in Figure 3-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY99 preliminary operating budget also funds BART's ADA paratransit deficit, bond debt service for systemwide renovation, and other needed allocations. The budget includes $348.3 million in operating revenue and financial assistance, balancing an equal amount of operating expenses, debt service, and capital allocations. BART's FY99 preliminary operating budget provides funding to augment five key areas of emphasis:

- Materials to maintain an aging system and improve reliability
- Service Delivery - Additional train operators and overtime to improve on time performance
- Elevator/escalator maintenance and cleanliness programs per ADA
- Higher utility costs
- Increased training

The preliminary FY99 operating budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the inclusion

Figure 3 - 1

FY 99 BART PRELIMINARY OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	168,200.0
Express Bus and Shuttles	500.0
Total Net Passenger Revenue	**168,700.0**
Interest Revenue	7,310.0
Other Operating Revenue	7,106.2
Subtotal Non-Fare Revenue	**14,416.2**
Total Operating Revenue	**183,116.2**
EXPENSE	
Net Labor	215,744.7
Express Bus Service	1,850.0
Shuttle Service	105.0
Purchased Transportation	3,160.7
ADA Service	6,846.4
Power, Traction & Station	20,740.0
Other Non-Labor	51,836.8
Total Operating Expense	**300,283.6**
OPERATING DEFICIT	**(117,167.4)**
FINANCIAL ASSISTANCE	
Sales Tax	150,724.0
Property Tax	13,670.9
State Transit Assistance (STA)	538.0
Transportation Developmment Act (TDA)	245.0
San Mateo County Service Agreement	0.0
Total Financial Assistance	**165,177.9**
DEBT SERVICE & ALLOCATIONS	
1998 Bond Sale and Refinancing	(42,310.5)
Capital & Other Allocations	(5,700.0)
Total Debt Service & Allocations	**(48,010.5)**
FINANCIAL RESULT	**0.0**

of $4.1 million in cost reductions in the following areas: administration, power, and debt service.

On the revenue side, the preliminary FY99 operating budget assumes that core system ridership will grow by its 1.5% long term average growth rate and that extensions ridership will grow by 11% as year 2000 EIR estimates are approached. The preliminary FY99 operating budget assumes 5.2% annual sales tax growth over FY98 estimated/actual receipts.

The FY99 budget also assumes 4.0% annual growth for property tax, based on first half receipts for FY98 and prior years receipts. The preliminary FY99 operating budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The preliminary budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and the start up of rail extensions operations.

FY99 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY99 is budgeted at $168.7 million, and is 4.5% higher than FY98's estimated/actual revenue of $161.4 million. This gain reflects the increased ridership at both core system and extension stations, and an adjustment to account for the impact of the one-week strike endured in FY98. ADA paratransit service passenger revenue is budgeted at $0.5 million in FY99.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.3 million in FY99. Other non-fare revenue line items include fiber optic joint development agreements, pay telephones, concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum station), fines, and forfeitures. Revenue from these sources is budgeted at $7.1 million.

FY99 Operating Expense

Total operating expense for FY99, which includes service for five extension stations, is budgeted at $300.3 million, 4.8% above FY98's budgeted expenses of $286.4 million. This increase reflects the labor agreements adopted in September 1997. It also

includes additional funding for improved service delivery, ADA related elevator/escalator maintenance, and materials needed to maintain the aging system.

Labor Expense and Staffing

Labor expense, which constitutes approximately 71.8% of BART's operating budget, is set to rise 2.6% from $210.2 million budgeted in FY98 to $215.7 million in FY99. This increase is primarily attributable to contractual 4% wage increases for all five BART unions and 3% wage increases for non-represented staff, plus maintenance and some improvements to benefits of all bargaining units. The operating budget headcount is set to rise by 13 positions for ADA, service, and information technology related programs. These increases in staffing are to be mostly offset by a reduction in the administration headcount of 11.5. Total operating staffing is budgeted at 3,011 heads.

Feeder Bus and Shuttle Bus Service Expense

Effective July 1, 1998, express bus service will have been entirely transitioned to local transit operators. BART is scheduled to pay the local operators taking over this service $1.9 million in FY99 per the regional cost sharing agreement. At a FY99 expense of $0.1 million, BART continues to fund a portion of the AirBART shuttle service to the Oakland Airport.

ADA Paratransit Service Expense

ADA paratransit services are set to rise to $6.8 million in FY99 from the $6.1 million budgeted in FY98. This 13.1% increase is consistent with the updated regional paratransit service forecasts.

Purchased Transportation Expense

The MUNI Transfer payment expense is a reimbursement to MUNI for providing feeder bus service to BART stations in San Francisco. The current agreement which governs this reimbursement ties this payment to the growth in sales tax. This expense amounted to $1.9 million in FY98, and is budgeted at $2.1 million in FY99.

Ridership projections indicate that approximately 3.7 million trips will either originate or end at the Colma station during FY99, generating $8.0 million in net rail passenger revenue. After taking into account both riders diverted from the Daly City station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY98 preliminary budget projects that a $1.1 million net operating surplus will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 6.6% of the District's operating budget. Power expense is expected to increase 10.1%, from FY98's budged expense of $18.8 million to $20.7 million in FY99. The FY99 power expense figure shows a higher growth rate than other expense items because

temporary federal power allocations have been reduced and long term power delivery arrangements with Pacific Gas & Electric (PG&E) are still being negotiated.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $51.8 million in FY99, compared to the FY98 budgeted expense of $46.8 million. The main uses of increased funding in this expense category will be for additional materials/maintenance for the aging system, inflation on ongoing materials/services, updated information systems, and higher utilities costs.

FY99 Financial Assistance

The District's FY99 operating budget includes $165.2 million from all sources of financial assistance; 4.3% over FY98's estimated/actual financial assistance of $158.3 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75% of this amount, with the remaining 25% shared by MUNI and AC Transit. The FY99 budget of $150.7 million for sales tax financial assistance reflects 5.2% growth over FY98 estimated/actual generations of $143.3 million. This 5.2% growth rate and the 6.2% growth experienced in FY98 average out to an annual growth rate of 5.6%, which is consistent with the long term average growth for this source of financial assistance.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expenses. The FY99 preliminary budget sets property tax revenue at $13.7 million, which is 4% higher than FY98's budgeted collection of $13.1 million.

State Transportation Assistance (STA) / Transportation Development Act (TDA)

As part of its agreement with local operators to take over BART express bus service, BART will not be claiming the bulk of its STA and TDA financial assistance apportionments. MTC's FY99 Proposed Apportionment of regional assistance funds does, however, include $538,000 in Alameda County STA paratransit funds and $245,000 in Alameda County TDA Article 4.5 funds which BART may claim to fund its paratransit program.

FY99 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as

well as direct contributions to the District's capital program. These line items are discussed as follows:

Outstanding Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY99, BART will have $83.8 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $11.4 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $102.6 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. The combined FY99 debt service payment for these three bond sales will be $22.6 million.

March 1998 Sales Tax Revenue Bond Debt Service

In March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. This sale generated $129.1 million for future system renovation projects, with the balance going to refund or refinance earlier bond obligations. The FY99 debt service costs associated with the bond sale will be $19.7 million, yielding a total FY99 debt service line item of $42.3 million.

Capital Program Allocations

In line with the adopted 1996 SRTP, the FY99 preliminary operating budget projects a $5.3 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above. Some $2 million of this FY99 capital allocation is proposed to be used for the mid-life overhaul of the District's 150 C-1 rail cars. This overhaul involves upgrading the cars' interior, exterior, air conditioning, and other system components.

FY99 Financial Result and Indicators

The District's FY99 preliminary operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations.

Farebox Ratios

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to go from 58.5% in FY98 to 58.3% in FY99. ADA paratransit service is forecast to have an 7.3% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 56.2% in FY99, decreasing from FY98's 56.6%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. Increased non-passenger operating revenue collections due to fiber optic lease agreements in FY99 will result in a 61.0% operating ratio, which compares favorably to the 60.5% operating ratio budgeted in FY98.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile was budgeted at 27.3¢ in FY98. The FY99 budget calls for this measure to increase 1.4% to 27.7¢ per passenger mile. This change reflects the projected cost growth being offset by projected increases in ridership, especially at the five new extension stations. The result is a unit cost measure which increases by less than the 3% projected CPI inflation rate.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's adopted budget for FY99 is the foundation for the SRTP financial plan for fiscal years 2000 through 2009. The discussion below turns to the principles which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles For Developing the Financial Plan

BART's financial plan for fiscal years 2000 through 2009 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecast for passenger revenue should be based on ridership projections which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for core system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for extensions which are identified in adopted environmental documentation. The SRTP financial plan assumes that fare levels are maintained at their current rates.

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at an annual 3.0% CPI rate for the entire SRTP planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of**

productivity. The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 2. The expense projections also include the savings resulting from the implementation of cost reduction measures discussed in the introduction to the FY99 preliminary budget, above, and others which could be successfully implemented. Other expense items include required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by a 3.0% annual CPI factor.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** MTC's long term forecast for annual sales tax growth in the three BART counties is 5.6%. (This figure is also consistent with the actual annual growth rate for the BART sales tax). The FY99 SRTP also assumes STA or TDA funding for ADA paratransit services grow by this same 5.6% annual rate.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on a continuation of recent increases in activity in the Bay Area's real estate market.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY98 and FY99, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and comply with federal ADA paratransit service requirements.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues and the fare increase package adopted in January 1995. The debt service requirement for the first and second issues of these bonds is covered by the

fare increase package (i.e., through FY98). The third issue of system renovation bonds is scheduled to add $9.6 million in debt service expenses beginning in FY00.

In addition to the above fiscal obligations is the projected need for allocations from the District's operating budget to support BART's ten-year capital program (refer to the FY99 CIP). These allocations consist of $67 million remaining from the FY98 SRTP's program of $83.5 million in capital allocations, as well as additional allocations for the $10 million C-1 Car Overhaul program and $22.6 million for outyear capital equipment purchases.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance per the federal mandate. As discussed above, the District's FY99 budget provides for full ADA paratransit service support, budgeted at $6.8 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 3-2, the base forecast builds upon the District's FY99 preliminary budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast is discussed below. Identified are cost reduction measures, adjustments to revenue and expense, and the underlying assumptions for each element.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 2 and earlier in this chapter. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. Based on the methodology described above, rail passenger revenue is projected to increase, from $172.7 million in FY00, to $246.1 million in FY09.

Trips which involve San Mateo County station use are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the

Figure 3 - 2

FY99 SRTP Financial Forecast

All Dollar Figures are in Millions

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	Prelim Bud FY 99	FY 00	FY 01	SFO 12/31/01 FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
REVENUE	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Net Rail Passenger Revenue	166.2	172.7	176.5	192.6	218.0	224.4	234.0	237.2	240.4	242.8	248.1
SFIA $1.50 Premium Surcharge Revenue	0.0	0.0	0.0	1.7	4.1	4.9	5.8	5.7	5.8	5.9	6.0
ADA Service Passenger Revenue	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Total Net Passenger Revenue	166.7	173.2	177.0	194.9	220.7	229.9	240.3	243.6	248.9	249.4	252.8
Interest Revenue	7.3	7.5	7.8	8.0	8.2	8.5	8.7	9.0	9.3	9.5	9.8
Fiber Optic Revenue	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.1
Other Operating Revenue	4.8	4.9	5.0	5.2	5.3	5.4	5.6	5.7	5.8	6.0	6.1
Subtotal Non-Fare Revenue	14.4	14.8	15.2	15.7	16.1	16.6	17.0	17.5	18.0	18.5	19.1
Total Operating Revenue	183.1	188.0	192.3	210.5	236.8	246.5	257.3	261.1	284.9	267.9	271.9
EXPENSE											
Net Labor	215.7	226.3	238.8	260.6	275.2	288.1	297.0	308.7	318.5	329.1	340.0
Traction/Station Power, with lease costs	20.7	20.7	20.7	23.6	25.9	26.6	27.3	28.2	29.0	30.1	31.0
SFIA Rent	0.0	0.0	0.0	1.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	51.8	53.0	55.3	59.2	64.1	66.0	69.0	71.3	74.1	76.8	80.1
Subtotal Net Rail Expense	288.3	302.1	314.8	344.7	367.7	381.2	395.9	410.7	424.0	438.3	453.5
Feeder Bus Service (local op subsidy)	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	2.1	2.2	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4	3.6
Purchased Transportation (SamTrans Serv Agmnt)	1.1	0.9	0.7	2.0	6.4	8.9	0.0	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.6	7.1	7.3	7.9	8.5	8.8	9.0	9.3	9.8	9.8	10.1
Subtotal Non-Rail Expense	12.0	12.7	12.9	15.0	20.0	23.0	14.5	14.9	15.4	15.9	16.3
Total Operating Expense	300.3	314.8	327.7	359.7	387.6	404.2	410.4	425.6	439.4	454.1	469.9
OPERATING DEFICIT	(117.2)	(126.7)	(135.4)	(149.1)	(151.0)	(157.7)	(153.1)	(164.5)	(174.5)	(186.2)	(198.0)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	150.7	159.2	168.1	177.5	187.4	197.9	209.0	220.7	233.1	248.1	259.9
Property Tax Proceeds	13.7	14.2	14.8	15.4	16.0	16.8	17.3	18.0	18.7	19.5	20.2
STA & TDA Assist for ADA & Gen Op	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4
Total Financial Assistance	165.2	174.2	183.7	193.8	204.4	215.6	227.4	239.9	253.0	268.9	281.5
DEBT SERVICE & ALLOCATIONS											
Prior Year Sales Tax Rev. Bonds	(42.3)	(40.8)	(40.9)	(41.0)	(41.2)	(41.3)	(41.4)	(41.6)	(41.7)	(41.9)	(42.0)
Future System Renovation Bonds	0.0	(9.8)	(9.8)	(9.6)	(9.8)	(9.8)	(9.6)	(9.8)	(9.6)	(9.8)	(9.6)
SF CAPRA Debt Service	0.0	0.0	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)
BART-SamTrans Allocation to E. Bay Ext.	0.0	0.0	0.0	(0.5)	(3.9)	(6.4)	(19.9)	(19.5)	(19.0)	(18.3)	(17.8)
Capital Program Allocations	(3.7)	(2.9)	(2.2)	(4.0)	(10.0)	(13.0)	(15.5)	(15.7)	(7.1)	(7.4)	(7.7)
C-1 Car 10 Year Overhaul Allocations	(2.0)	(2.0)	(1.0)	(1.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PERS Reserve Account	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(48.0)	(52.1)	(59.0)	(61.4)	(70.9)	(75.8)	(91.7)	(91.6)	(82.7)	(82.4)	(82.4)
ADDITIONAL COST CONTAINMENT & REVENUE ENHANCEMENTS	0.0	4.8	10.7	16.7	17.5	17.7	17.4	16.3	4.2	1.7	0.0
ANNUAL FINANCIAL RESULT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
BEGINNING YEAR BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMULATIVE BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
PATRONAGE											
Systemwide Average Weekday Trips (000's)	271.4	277.9	283.5	305.4	334.5	347.3	358.7	363.7	368.8	373.9	379.1
Systemwide Total Annual Trips (000's)	79,399.2	81,128.0	82,784.1	88,575.9	97,331.5	100,709.6	104,748.8	106,203.1	107,680.7	108,818.1	110,322.2

San Francisco Airport Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (June 1997), and the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997).

SamTrans will be responsible for paying any net operating deficit on the BART Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program. The Net Rail Passenger Revenues documented in Table 3-2 assume that, at each of the West Bay extensions stations, a 76 cent surcharge is applied to the regular fare.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFIA) will require BART to pay $2.5 million in annual rent to the SFIA. This rental payment will be funded from additional fare surcharges at San Mateo County stations. The Agreement also requires that airline employees using the BART-SFIA station receive a 25 percent discount off their fares. The proceeds from these additional surcharges and the approximately $1 million revenue loss associated with the airline employee discount are both included in the Net Rail Passenger Revenue line in Table 3-2.

San Francisco International Airport Premium Surcharges

In FY02, with the initiation of revenue service on the Extension, the District will, if need be, implement an additional $1.50 surcharge on all trips using the BART station at the San Francisco International Airport. Per the terms of the FFGA with the FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding potential cost overruns on the San Francisco Airport Extension.

The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, will result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY03, growing to $5.9 million by FY09. If cost overruns do not materialize on the construction of the San Francisco Airport Extension, then the District will be able to avoid having to impose this premium surcharge, and its impact on ridership at the SFIA station.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue

assumes that ridership for this service will grow at constant 7.3 percent of ADA paratransit costs. BART's forecast for ADA paratransit passenger revenue is $0.5 million in FY00, growing to $0.7 million by FY09.

Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $173.2 million in FY00 to $252.8 million in FY09.

Operating Revenue From Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the 3.0% annual CPI growth rates, from $4.9 million in FY00 to $6.1 million in FY09. Beginning in FY99, additional operating revenue is forecast to be generated by telecommunications fiber optics agreements. Revenue for current contracts is anticipated to yield $2.4 million in FY00 growing to $3.1 million by FY09. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $7.5 million in FY00, growing to $9.8 million in FY09.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's total operating revenue is projected to grow from $188.0 million in FY00 to $271.8 million in FY09.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY99 preliminary budget, with adjustments made to reflect expense reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the projected service levels for rail operations, as discussed in Chapter 2. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet

- Annual car miles
- Annual train hours

Additionally, the model input includes assumptions for the consumer price index. The FY99 SRTP assumes a 3.0% annual CPI growth rate.

Staffing and Labor Expense

Labor expense growth reflects the annual wage, salary, and benefit increases included in the FY98 through FY01 adopted labor agreements. In addition, labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increase in staffing is forecast to occur in FY02, when SFO Extension service begins. Labor expense is forecast to grow from $228.3 million in FY00 to $340.0 million in FY09. (These figures include PERS retirement expenses).

Traction and Station Power Expense

Power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat through FY01, per a tentative five year PG&E rate freeze. From FY02 to FY09 the basic cost per unit of power is assumed to grow at 3.0% annually. The projected amount of power consumption is scheduled to increase with the opening of the SFO Extension in FY02.

SFIA Rental Payment

As discussed in the Revenue section, BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to the SFIA. This payment will begin in the third quarter of FY02, and will remain at $2.5 million per year over a 50 year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $53.0 million in FY00 to $80.1 million in FY09.

Feeder Bus Service (Local Operator Subsidy) Expense

In accordance with the negotiations with MTC and the local bus operators serving BART's current express bus corridors, the FY99 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million annual subsidy payment beginning in FY00 to FY09 to these operators. This payment will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, and temporary shuttles such as those needed for bus bridges due to cessation of rail service. This expense is forecast to grow at 3.0%

annually through FY09 and amounts to approximately $0.1 million in each fiscal year from FY99 through FY09.

Purchased Transportation (Muni)

The formula which defines the reimbursement for providing feeder service to BART from MUNI is tied to sales tax growth. Purchased transportation expenses for MUNI transfers is forecast to grow from $2.2 million in FY00 to $3.6 million in FY09.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A surplus payment of $1.1 million is budgeted for FY99. This amount will decrease to $0.9 million in FY00 as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans will increase again in FY02 because, per the amended BART-SamTrans Agreement, SamTrans is entitled to half of the San Francisco Airport Extension net operating surplus during its first three years of operation. After these three years pass, all net operating surpluses generated will accrue to BART's Eastbay Extensions.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY09. ADA expenses are assumed to increase by the combined growth in CPI inflation and the number of stations in the BART system. On this basis, ADA paratransit expense is forecast to grow from $7.1 million in FY00 to $10.1 million in FY09.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $314.8 million in FY99 growing, by the combination of system expansion and CPI growth, to $469.9 million in FY09.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY99 preliminary budget portion of this chapter. The forecast for financial assistance through FY09 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The base long term forecast for sales tax growth of 5.6%. This forecast matches the District's long term sales tax growth rate as well as MTC's regional growth rate projections for sales tax revenue in the three-county BART district. With this growth factor the amounts collected would be $159.2 million in FY00, which grows to $259.9 million in FY09.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY00 through FY09. Financial assistance from property taxes is forecast to be $14.2 million in FY00, growing to $20.2 million in FY09.

STA & TDA Financial Assistance

Since STA & TDA assistance is tied to sales tax collections, it is also projected to grow at a 5.6% annual rate. This small amount of assistance, growing from $0.8 million in FY00 to $1.4 million in FY09, is programmed for BART's ADA paratransit program.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $174.2 million in FY00 to $281.5 million in FY09.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY00, BART will have $75.6 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $9.5 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $99.3 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. The combined FY00 debt service payment for these three bond sales will be $22.7 million. As the principal on these bonds is retired, annual debt service will decline to $10.6 million by FY09.

In March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. This sale generated $129.1 million for future system renovation projects, with the balance going to refund or refinance earlier bond obligations. The FY00 debt service costs associated with this bond sale and refunding will be $18.1 million, yielding a total combined FY00 debt service from existing bond sales of $40.8 million. The debt service on the March 1998 bond sale and refunding is backloaded so that total combined debt service costs remain relatively flat into the future, thus FY09 combined debt service costs will be $42 million.

Future System Renovation Bond Debt Service

The District's contribution to the cost of its System Renovation program is being made, in large part, through the sale of sales tax revenue bonds. To date $264 million in bond proceeds have been contributed to the program. An additional bond sale of $129 million is planned for the spring of 1999. The annual debt service costs of this future bond sale are $9.6 million.

SFO Capital Reserve Account (CAPRA)

The FFGA for the San Francisco Airport Extension includes a section which requires BART to set aside funds in a CAPRA dedicated towards paying for potential ineligible costs on the San Francisco Airport Extension. The first $7.5 million pledged towards this CAPRA is included in the Capital Allocations line item for years FY97 through FY00. Beginning in FY01, the District will, if need be, begin paying the debt service on $72 million in bonds which are backed by the revenue generated from the 76 cent surcharge collected at Daly City Station and the revenue generated by an additional $1.50 surcharge on all trips using the San Francisco International Airport BART Station. This $72 million in bond proceeds would have an annual debt service requirement of $5.3 million.

It should, again, be stated that if cost overruns fail to materialize on the San Francisco Airport Extension, then these debt service costs will not have to be incurred.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the implementation of the San Francisco Airport Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. For the first three fiscal years of revenue service SamTrans will share this surplus evenly with BART. In FY05 -- the fourth year of operations -- the entire $20 million projected surplus will be transferred to the East Bay Extensions Program. These surpluses could grow after FY05 to the extent that fare revenues outpace the operating costs attributed to the extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans $145 million remaining Buy-in commitment is liquidated. Annual surpluses will be split by the two parties once this $145 million is generated.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $67 million between FY99 and FY06 to support the District's Capital Improvement Program (CIP) fiscal needs. (This $67 million is the amount remaining from the FY98 SRTP program of $83.5 million in capital allocations). Without these allocations, critically needed projects would have to be delayed. As shown in Figure 3-2, annual capital allocations in the range of $3 million to $10 million are provided in FY00 through FY03. Larger annual capital allocations, in the $13 million to $16 million range, are provided in FY04 through FY06. Outyear allocations of roughly $7 million annually have been added in FY07 through FY09 to fund ongoing capital equipment needs.

C1 Car Mid-Life Overhaul Allocations

The District proposes to initiate at the close of FY98 a $10 million program to overhaul its 10-year old fleet of 150 C1 cars. This overhaul would involve the upgrade of the cars' interior, exterior, air conditioning, and other electronic systems. When implemented this overhaul would assure that these cars can reach the end of their 25

year useful life without a deterioration in their reliability. With a projected $3 million of this program funded out of FY98 revenues, the balance shown in this SRTP update is $7 million spread over FY99 through FY03.

PERS Reserve Account Allocations

To reduce the District's liability with regard to resumption of PERS payments, a total of $3.2 million was budgeted and allocated to a special PERS reserve account during FY96 and FY97. The financial forecast assumes the funds in this reserve account will be used to supplement the District's FY00 operating budget.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $52.1 million in FY00. Annual debt service and allocations will reach a high of $91.7 million in FY05, and end at $82.4 million in FY09

Additional Cost Containment and Revenue Enhancements

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 3-3, which identifies actual fiscal year expense for fiscal years 1986 through 1997. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs which were published five years earlier.

As indicated in Figure 3-3, the District has a record of consistently managing its expenses to lower actual budgeted levels in any given fiscal year relative to the amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations. With the ten year $5.2 billion program (representing Expenses in combination with Debt Service & Allocations) presented in this SRTP's base forecast, every 1% savings translates to a $52 million reduction in total program costs over the ten years. Thus the entire ten year program could be balanced with savings of roughly 2% of the projected level of Expenses and Debt Service & Allocations.

Figure 3 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

Variances Reflect Efforts to Contain and/or Reduce Costs

As Well as Changes in Assumptions for Extension Start Dates, Fleet Size, and CPI

Dollar Figures in Millions

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK Forecast	% vs Actual	SRTP, 5-YEAR LOOK Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.6	208.2	0.8%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
97	267.7	269.1	0.5%	319.7	19.4%
Average	---	---	1.7%	---	15.8%

Note: The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier. FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier, in 1981.

Specific Strategies to Address Cost Containment & Revenue Enhancement Needs

Cost containment is a significant aspect of how BART has provided and will continue to provide sufficient resources to meet its financial needs, while improving and expanding service. A second important aspect of BART's overall financial strategy is revenue enhancement.

The last year has seen major progress made in the area of long term cost containment. The sale and refinancing of sales tax revenue bonds which was concluded in March 1998 resulted in a significant net annual savings. When these savings are combined with the savings projected from the next planned sales tax revenue bond sale, a total annual savings during the SRTP period of approximately $16 million results. These savings will more than offset the additional expenses associated with the labor agreements approved in September 1997 and the additional capital allocations scheduled for the near-term overhaul of the District's 10 year old fleet of C1 cars and the outyear purchase of capital equipment. As a result the $106 million in total cost containment and revenue enhancement projected in the FY99 SRTP financial plan is less than that the $117 million projected the FY98 SRTP financial plan.

There are a number of specific strategies BART could employ to generate $106 million. Some needs are still several years away, and the financial outcomes of the intervening years will help direct the District towards the specific combinations and timing of strategies which would be most appropriate.

Cost Containment Strategies

1. *Power Savings:* BART is currently negotiating with PG&E for the delivery federal power. If these negotiations produce a favorable result, and if BART sponsored legislation is approved in Sacramento regarding the treatment of BART power purchases in the current deregulated environment, then additional annual savings to BART's operating budget could reach up to $2 million per year.

2. *Reduced Car Miles:* The FY99 Preliminary Operating Budget reflects a reduction of 1.4 million car miles from the prior year's budget due to more aggressive train resizing. The net operating result is a savings of $1.5 million. Additional future reductions in car miles from train resizing would increase the complexity of operating the system, but could yield annual savings of approximately $3 to 6 million annually.

3. *Revised Bond Sale Schedule:* The sale or delivery of the $129 million in bonds needed for the final order quantity on the A&B Rehabilitation contract is scheduled to occur in April 1999. The District may be able instead to defer the sale or delivery of all or a portion of these bonds if actual project cashflow permits. Deferred sale or delivery could delay or reduce the additional annual debt service costs scheduled to commence in FY00 by as much as one full year. Not having to pay debt service costs on this $129 million in bonds in FY00 would save the District nearly $10 million over the ten year period.

Revenue Enhancement

1. *TRACS Fiber Optic Revenues:* Annual revenues from BART's Agreement with MFS Technologies are included in the SRTP revenue projections only for contracts which have been executed to date. With continued strong interest from new vendors wanting to install fiber optic cables in the BART right-of-way there could easily be an additional $1 million to $2 million annually from this revenue source.

2. *Alameda County Measure B Sales Tax:* While the initial attempt at the Measure B half cent sales rollover was not approved at its June 1998 election, there is a possibility that another version of the measure will be approved before the current measure expires in 2002. A later version of the Measure B expenditure plan presumably will include funding for BART's ADA paratransit and capital programs similar to the June 1998 version.

3. *Passenger Fees:* General fare increases equal to approximately one-third of the CPI growth over the next ten years would raise sufficient revenue to achieve the FY99 SRTP financial plan's cost containment and revenue enhancement projections. In addition, the imposition of daily charges on a limited number of the District's 42,000 parking spaces could generate a few million dollars per year (net of the cost of administering these charges).

4. *Additional Capital Funds:* BART's Capital Improvement Program employs projections (developed by MTC) of Federal and State capital funding which represent 75 percent of the levels currently included in the Federal Transportation Program's reauthorization legislation. Should more than 75 percent of the funding levels included in the authorization legislation be appropriated in future years, then additional funding could become available for the District's System Renovation program. These additional funds could reduce the need to make annual allocations from the operating budget for this program. BART has also generated capital funds previously from alternative funding programs such as cross border leasing and the right of way leasing to fiber optic network providers noted above. BART will continue to pursue such funding alternative funding opportunities in the future.

Financial Performance and Indicators

Farebox Ratio

As documented in Figure 3-4, the farebox ratio for rail operations is forecast to start out at 57.2% in FY00, and grows to 59.1% in FY05, reflecting the full build up of the ridership and revenue for the San Francisco Airport extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio will decline after FY05 to 54.3% by FY09. The ADA paratransit farebox ratio is forecast to remain at or about

7.3% over the 10 year period. The systemwide farebox ratio is forecast to be 55.0% in FY00, growing to 58.5% in FY05 before declining to 53.8% in FY09.

Operating Ratio

The system operating ratio is forecast to be 59.7% in FY00, increasing to 62.7% in FY05, and then decreasing to 57.9% in FY09.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile is projected to be 28.3¢ in FY00. Longer extension trips in later years help BART to improve this level of productivity by FY05 when the projected rail cost per passenger mile is 27.4¢. Annual CPI growth after FY06 results in an increase these unit costs growing to 29.8¢ by FY09.

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

Figure 3 - 4

FY 99 SRTP
BASE FINANCIAL FORECAST
Financial Performance Indicators

		Prelim Budget FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Farebox Ratios:	Rail	58.3%	57.2%	56.1%	55.9%	58.7%	58.9%	59.1%	57.8%	56.7%	55.4%	54.3%
	ADA	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
	System	56.2%	55.0%	54.0%	54.2%	56.9%	56.9%	58.5%	57.2%	56.2%	54.9%	53.8%
System Operating Ratio		61.0%	59.7%	58.7%	58.5%	61.1%	61.0%	62.7%	61.4%	60.3%	59.0%	57.9%
Rail Cost Per Passenger Mile		$0.277	$0.282	$0.288	$0.289	$0.276	$0.275	$0.273	$0.280	$0.285	$0.291	$0.298

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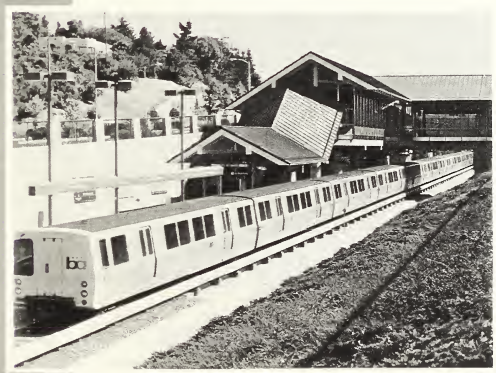
S16
#58 Adopted
FY 1999-2009

BART

San Francisco Bay Area
Rapid Transit District

SHORT RANGE TRANSIT PLAN

July 1998 through June 2009
Fiscal Years 1999 - 2009



Adopted December 3, 1998

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SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

SHORT RANGE TRANSIT PLAN

FISCAL YEARS 1999 - 2009

The preparation of this report has been financed in part through a grant from the United States Department of Transportation, Federal Transit Administration under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission. This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART, which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

This report was researched and prepared by:

Pamela Herhold and Robert Mitroff

Financial Planning Division
Department of Operating Budgets & Analysis
San Francisco Bay Area Rapid Transit District

November 24, 1998

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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San Francisco Bay Area Rapid Transit District
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Chapter 1

BART ORGANIZATION

&

SYSTEM OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. Voter approval, in 1962, of a $792 million general obligation bond issue in San Francisco, Alameda, and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71 mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology. The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's adopted FY99 budgeted workforce includes 3,409 full-time equivalent positions, 3,011 of which are for operations and 398 for capital projects. BART's departments are presented in the organization chart in Figure 1-1. The goals of the District are summarized in Figure 1-2.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations, and an administration and operations control center. Capital improvements made over the past 26 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer, and six additional stations. Embarcadero station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996, and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-3.

Track and Right-of-Way

BART is a third-rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 95 miles of continuously welded, double-mainline, 66-inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward, and Richmond), and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, located between Lake Merritt and Fruitvale Stations (Oakland Shops), provides support to buildings, grounds, and equipment other than rail vehicles.

Figure 1 - 1

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Fiscal Year 1999

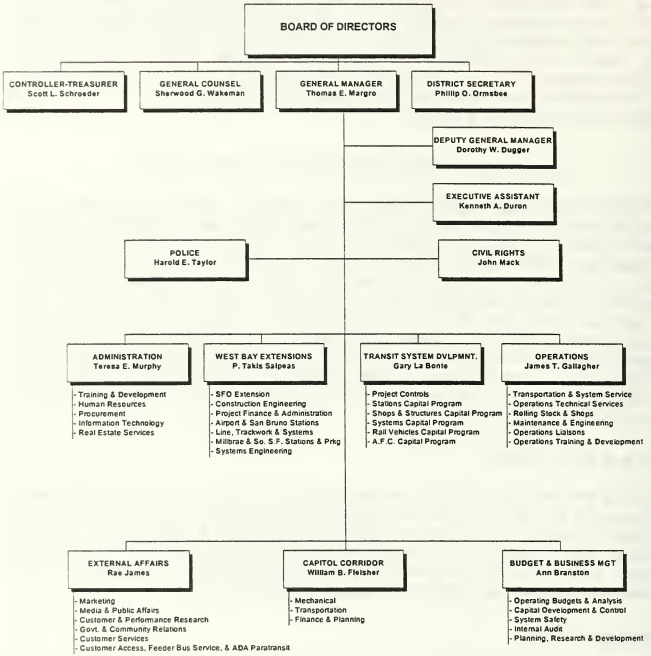


Figure 1 - 2

BART GOALS

1. Provide safe, reliable, high-quality and economical transportation service to the Bay Area community.

2. Deliver user-friendly services to all our customers.

3. Empower employees to function as owners of the BART organization.

4. Provide an environment free of impediments to opportunities for employees and disadvantaged business enterprises, and one which encourages cooperation and develops an organizational team of highly motivated staff.

5. Develop BART services and facilities to expand District markets and capture new revenue sources.

6. Secure and manage the funds necessary to maintain and expand the system and to operate BART according to fiscally sound business practices.

7. Take the leadership role in integrating various features of regional transportation systems in policy, finance, and operations.

8. Build constituencies at all levels of government to support the BART organization and its programs.

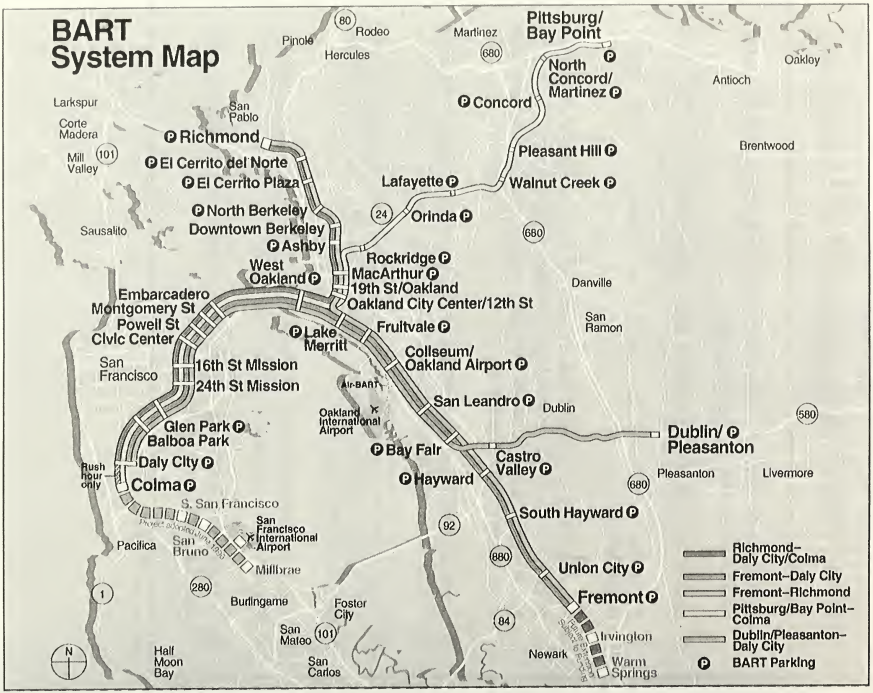

BART System Map
Pittsburg/ Bay Point
Pinole
Hercules
Rodeo
Martinez
North Concord/ Martinez
Oakley
Antioch
Concord
Larkspur
Corte Madera
San Pablo
Richmond
Mill Valley
El Cerrito del Norte
El Cerrito Plaza
Pleasant Hill
Brentwood
Lafayette
Walnut Creek
North Berkeley
Downtown Berkeley
Orinda
Sausalito
Ashby
West Oakland
Rockridge
MacArthur
19th St/Oakland
Oakland City Center/12th St
Danville
Embarcadero
Montgomery St
Powell St
Civic Center
Lake Merritt
Fruitvale
San Ramon
Coliseum/ Oakland Airport
San Francisco
16th St Mission
24th St Mission
Air-BART
San Leandro
Dublin
Oakland International Airport
Glen Park
Balboa Park
Bay Fair
Dublin/ Pleasanton
Castro Valley
Rush hour only
Daly City
Hayward
Pleasanton
Livermore
Colma
S. San Francisco
South Hayward
San Francisco International Airport
Pacifica
San Bruno
Millbrae
Union City
Burlingame
Foster City
Fremont
San Mateo
Irvington
Half Moon Bay
San Carlos
Newark
Warm Springs
Richmond–Daly City/Colma
Fremont–Daly City
Fremont–Richmond
Pittsburg/Bay Point–Colma
Dublin/Pleasanton–Daly City
BART Parking

Figure 1 - 3

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars, and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 29 are currently control equipped). A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990, and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 by 10.5 feet, and can be used as lead, mid-train, or trail vehicles.

Trains are operated from the lead A- or C-car and train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center, located in the Lake Merritt Administration Building in downtown Oakland. However, train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80 mile per hour speed. Revenue service is based on a 70 mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 36 miles per hour.

BART is currently renovating all 439 of the A-and B-cars. The renovation program will disassemble and completely repair, upgrade and rebuild the cars, restoring them to like-new condition. Up to 36 vehicles at a time are rotated out of the fleet and placed in production at the ABB Daimler-Benz Transportation, North America, (Adtranz) renovation facility in Pittsburg, California. These vehicles will be unavailable for service for periods of 2 to 18 months each, and the last car is scheduled to return to service in December, 2002.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated, and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland, and Berkeley downtown areas, and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators which link various levels to streets, connecting local transit, and parking areas. Automatic fare collection equipment is

located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's Operations Control Center (OCC) is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks and lockers, and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-4) consists of 41,455 free spaces at 28 stations and 211 spaces at Lake Merritt Station at a daily charge of 25¢.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's OCC and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer provides overall systemwide supervision of train movements 24-hours a day. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-5 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Depending upon demand, additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

Figure 1 - 4

BART PARKING SPACE INVENTORY

PARKING EXPANSION PLANS AT EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF MAY 98	PLANNED FOR FY99 - FY09	TOTAL PROJECTED BY FY09
SAN FRANCISCO LINE:			
Colma (a)	2,491	0	2,491
Daly City	2,076	0	2,076
Glen Park	54	0	54
West Oakland (b)	419	0	419
Subtotal	**5,040**	**0**	**5,040**
FREMONT LINE:			
Fremont	2,197	0	2,197
Union City	1,196	0	1,196
South Hayward	1,314	0	1,314
Hayward	1,465	0	1,465
Bay Fair	1,639	0	1,639
San Leandro	1,234	0	1,234
Coliseum	1,026	0	1,026
Fruitvale	1,070	0	1,070
Lake Merritt	211	0	211
Subtotal	**11,352**	**0**	**11,352**
RICHMOND LINE:			
Richmond	789	0	789
El Cerrito del Norte	2,247	0	2,247
El Cerrito Plaza (c)	791	500	1,291
North Berkeley	806	0	806
Ashby	570	0	570
MacArthur	608	0	608
Subtotal	**5,811**	**500**	**6,311**
CONCORD LINE:			
Pittsburg/Bay Point	2,032	0	2,032
North Concord/Martinez	1,975	0	1,975
Concord	2,513	0	2,513
Pleasant Hill (d)	3,450	0	3,450
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,385	0	1,385
Rockridge	886	0	886
Subtotal	**15,728**	**0**	**15,728**
DUBLIN/LIVERMORE LINE:			
Castro Valley	1,123	0	1,123
Dublin/Pleasanton	2,612	0	2,612
Subtotal	**3,735**	**0**	**3,735**
EXISTING STATIONS TOTAL	**41,666**	**500**	**42,166**
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	**0**	**5,337**	**5,337**
SYSTEM GRAND TOTAL	**41,666**	**5,837**	**47,503**

(a) Colma Station includes 1,074 spaces in the SamTrans surface parking lot.

(b) A future parking project is subject to reevaluation and identification of a funding source.

(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station.

(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is not reflected in the station total for Pleasant Hill.

Figure 1 - 5

BART RAIL HEADWAYS AND HOURS OF SERVICE

May 1998

	TRANSBAY ROUTES				EASTBAY ROUTE	SAN FRANCISCO
	Pittsburg/ Bay Point - Colma	Fremont - Daly City	Dublin/ Pleasanton - Daly City	Richmond - Daly City (a)	Fremont - Richmond	Embarcadero Civic Center
***HEADWAYS** (minutes)*						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY	20.0	(b)	20.0	(b)	20.0	10.0
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train leaves	03:59	05:05 (c)	03:58	04:56 (c)	04:00	04:20
Last Train arrives	01:24	21:23 (c)	01:26	21:01 (c)	01:27	01:07
SATURDAY						
First Train leaves	06:00	08:44 (c)	06:03	07:46 (c)	05:56	06:06
Last Train arrives	01:24	20:29 (c)	01:26	20:09 (c)	01:27	01:03
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:56	08:04
Last Train arrives	01:24	(b)	01:26	(b)	01:27	01:09

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time period. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

BART complies with the Americans with Disabilities Act requirement to provide paratransit service which is comparable and complementary to the BART system. Federal regulations define the ADA paratransit service area as a 0.75 mile radius around a BART station.

To provide effective paratransit service in its widely dispersed service area, BART has established a variety of partnerships with other transit operators. In the joint service area with AC Transit, BART and AC Transit jointly fund and administer the East Bay Paratransit Consortium. In other parts of the BART service area, BART has arranged to provide funding to MUNI, Contra Costa County Transit Authority (County Connections), Eastern Contra Cost Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT) and Livermore Amador Valley Transit Authority (LAVTA). These agencies provide paratransit service on behalf of BART at the same time as they provide for their own paratransit service obligation.

ADA Paratransit service is available to people who have been certified as being unable to access and ride BART because of their disability. BART participates in a regional eligibility process which is followed by the principal transit operators in the San Francisco Bay Area. Service is provided by both lift vans and sedans. Most of the paratransit service programs in which BART participates operate by reservation only. MUNI is the exception in that it also provide for same-day taxi service under a user subsidy program.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-6, with station-to-station fares shown in Figure 1-7. The following presents information on BART fares for rail and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtown's and other local areas. As shown in Figure 1-7, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Starting in September 1998, students between the ages of 13 and 18 are able to purchase $33 high-value tickets for $25, a 25% discount. The tickets also include a last-ride bonus. Students are limited to two tickets per month valid for weekday travel. At the end of six-months, a program review of ridership gain and program cost will be presented to the BART Board.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART, BART express bus, and other Bay Area transit systems which serve BART rail stations.

The ADA limits the fare that can be charged for ADA service to twice the full adult fare for a comparable fixed route trip. Fares for paratransit service provided through the joint BART/AC Transit *East Bay Paratransit Consortium* are distance based, and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. Paratransit travel within San Francisco is provided by taxi service at 10% of the meter rate, usually averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00 from MUNI. Paratransit fares in BART's other service areas range from $1.00 to $6.00 per trip.

Figure 1 - 6

BART FARE COMPONENTS AND TICKET PRICES

As of June 1998

TRIP LENGTH:	Up to 6 miles		$1.10
	Between 6 and 14 miles [1]		$1.34 + 9.9¢/mile
	Over 14 miles		$2.13 + 5.9¢/mile
SURCHARGES:	Transbay		66¢
	San Mateo County [2]		76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time		±3.7¢/minute
RESULTING FARES:	Range [3]		$1.10 to $4.70
	Average fare (before discounts) [4]		$2.40
	Average fare paid (after discounts) [4]		$2.15
RAIL FARE	Children under 5		Free
DISCOUNTS & SPECIAL FARES: [5] (high-value tickets)	Children 5 through 12 (75% discount)		$4.00 ($16 value)
	Persons 65 and over (75% discount)		$4.00 ($16 value)
	Persons w/ qualifying disability (75% disc)		$4.00 ($16 value)
	Students 13 through 18 (25% discount) [6]		$25.00 ($33 value)
	Regular adult (6.25% discount)		$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [7]		$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]		$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [9]	FastPass -- (within San Francisco, unlimited monthly use of BART & MUNI)		$35
ONE-WAY TRANSFERS TO: [10] (issued at rail stations)	CCCTA		50¢ ($1.00 base fare)
	Union City Transit		25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [10] (issued at rail stations)	AC Transit:	From BART	$1.00 ($1.25 base fare)
		To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF:	From BART	$1.00 ($1.00 base fare)
		To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station:	From BART	Free ($1.00 base fare)
		To BART	Free ($1.00 base fare)
ADA SERVICE:	East Bay Paratransit Consortium [11]		$2.25 to $6.75
	BART/MUNI Cost-Sharing Agreement [12]		80¢ to 90¢ approximately
	All other areas		$1.00 to $6.00 approximately

Figure 1 - 6

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby, and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980, and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI FastPass. The figures shown are FY98 actuals.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek, and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. Students are limited to two tickets per month for weekday travel only and tickets include a last ride bonus.

7. There is a three-hour limit on the excursion fare.

8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, Contra Costa County Transit Authority, Santa Clara Valley Transportation Authority, Union City Transit, Dumbarton Express, and WestCAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

9. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment, and other outlets in San Francisco.

10. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer is equal to the base fare less the additional fare paid to the connecting transit system.

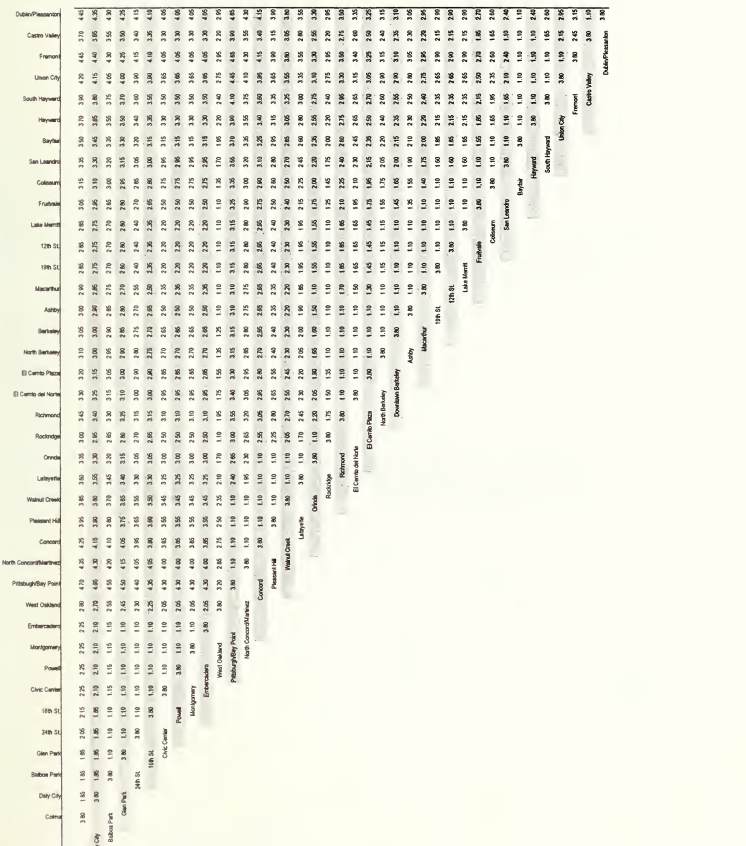
11. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.

12. BART has executed a cost-sharing agreement with San Francisco which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 7

BART INTER-STATION FARES

Effective April 1, 1997



Chapter 2

RIDERSHIP FORECAST

and

PLANNED SERVICE

BART's ridership forecast is the key driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan (SRTP) period is presented. This is followed by the Rail Service Plan which includes a description of the service developed to accommodate core system and extensions ridership growth. The last section of this chapter describes BART plans for ADA paratransit service.

RAIL RIDERSHIP FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions, and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the San Francisco Airport Extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth Assumptions

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '96 Update*, and the Metropolitan Transportation Commission's (MTC) travel demand model. The Ridership Forecasting Model uses demographic projections for 1995 (as a base year), 2000, 2005, and 2010 for each of MTC's 700 traffic analysis zones (TAZ). Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

An important step in ridership forecasting is to establish the sensitivity of transit ridership to changes in transit fares. BART's most recent fare change, a four-year package adopted by the Board in January 1995, implemented an increase on April 1 of 1995, 1996, and 1997, and no increase on April 1, 1998. The last increase prior to these was on January 1, 1986. Cumulatively, the result was an increase in fares from 1986 to 1998 of 44.7%, less than the 47.1% change in CPI for the same time period. Overall, the fare increases resulted in no long-term appreciable ridership loss. The SRTP ridership forecast, based upon the current fare structure, projects annual and average weekday trips for each fiscal year in the SRTP planning period.

Load Factors

Load factors are measured as the ratio of passengers to seats. The service plans presented in this SRTP should provide sufficient capacity to maintain acceptable load factors for all peak period trains throughout the ten-year planning horizon. The patronage

forecast assumes load factors are not so high as to deter patrons from riding. The service plans developed for this SRTP are designed to provide service such that peak hour transbay load factors for the four routes average 1.35 or less. During the peak of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints.

Historically, the peak hour transbay load factor has ranged from 1.45 in the mid-1980's to an average of 1.25 in the first five years of the 1990s. Recently, as measured in August 1997, transbay load factors averaged 1.16. Fremont to Daly City was the most crowded transbay route, with an average load factor of 1.26.

Average load factors during the two-hour shoulder comprising the remainder of the three-hour peak period are expected to meet the District load factor objective of 1.15 for each route. Offpeak load factors are targeted to average 1.00 or less for each train.

Travel Times

The faster train run times made possible by the 1992 implementation of the System Throughput Enhancement Program (STEP) have been carried forward through FY02. By FY02, Advanced Automatic Train Control (AATC) is expected to be operational on the M-Line (Daly City through West Oakland) and upper A-Line (Bay Fair through West Oakland). Implementing AATC will allow more accurate tracking of trains and support faster run times between stations. With these improvements implemented, train travel times are expected to decrease by several minutes.

Degradation of auto travel times, BART's primary modal choice competitor, is also assumed. This assumption reflects increased highway congestion, as growth in demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel demand model.

Extensions Service

This SRTP's ridership and financial forecasts are based on information available as of the end of FY98. This includes a full year of ridership at the Castro Valley and Dublin/Pleasanton stations (open May 10, 1997) and over a full year of ridership for the Pittsburg/Bay Point Station (open December 7, 1996). The first two extension stations, North Concord/Martinez and Colma, have been in operation since FY96. The San Francisco Airport Extension of rail service south of Colma Station is assumed to open in FY02, consistent with the adopted project schedule.

The FY99 SRTP ridership and operating financial forecasts reflect only the above rail extensions, and do not include operations of any other rail facilities or services identified in BART's Capital Improvement Program. Those projects include the West Dublin/Pleasanton Station, Warm Springs Extension, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension, and extensions to points further east in Contra Costa and Alameda counties. The District will

continue to seek funding for those projects, and will include corresponding operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 41,666 parking spaces. As identified in Figure 1-4, BART plans call for adding 5,337 parking spaces with the opening of the four San Francisco Airport Extension stations in FY02, and 500 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART continues at current levels.

RAIL RIDERSHIP FORECAST

As shown in Figure 2-1, ridership at current fares is projected to increase from a budgeted 79.4 million trips in FY99 to 110.3 million trips in FY09.

Core System Ridership

Using the assumptions outlined above, the resulting ridership forecast projects 93.0 million trips in FY09 for the core system. This 2.3% annual growth from the FY99 preliminary budget of 74.0 million trips reflects growth of extension station riders exiting at core system stations and 1.5% base core system growth.

Extensions Ridership

Ridership for extensions is consistent with the MTC travel demand model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY09, passenger exits at the nine extension stations are expected to be 17.3 million. The incremental ridership for the Phase I rail extensions is summarized as follows:

Alameda and Contra Costa County Extensions

Ridership for the four East Bay extension stations (North Concord/Martinez, Pittsburg/Bay Point, Castro Valley and Dublin/Pleasanton) is budgeted at 3.6 million trips in FY99. This figure includes an anticipated 36-month phase-in to Year 2000 ridership levels estimated in each extension's environmental documentation. Ridership for these four stations is forecast to increase to 6.0 million trips in FY09.

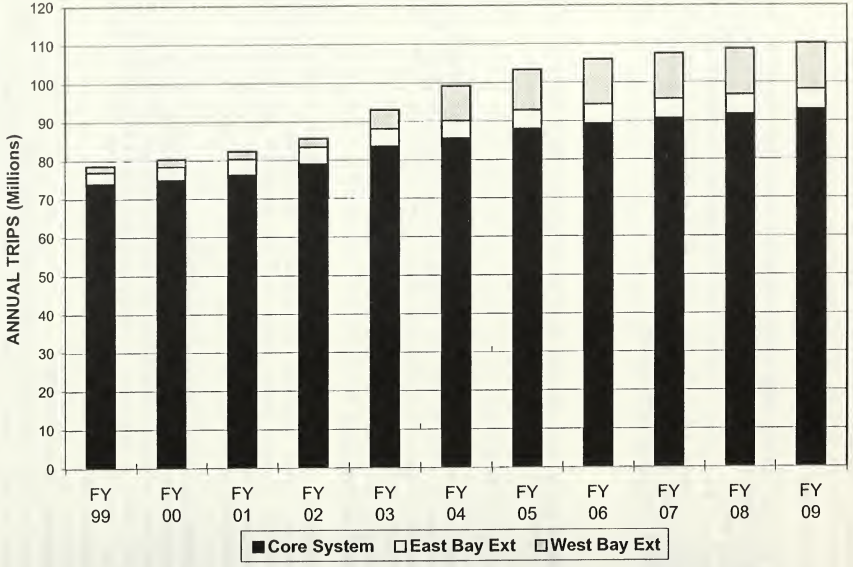
San Mateo County Extension:

Colma Station is budgeted at 1.8 million trips on BART in FY99. In FY01, the last full year before the start of service to four additional stations along the San Francisco Peninsula,

Figure 2 - 1

BART RIDERSHIP FORECAST

Core System and Extensions



Colma Station ridership is forecast to grow to 2.2 million trips. In FY09, the five Peninsula extension stations south of Daly City are forecast to generate 12.0 million BART trips.

Systemwide Ridership

At the end of this SRTP's planning period, FY09, the BART system will have 43 stations and 103 miles of double mainline track. Systemwide ridership is forecast to increase 38.9%, from a budget of 79.4 million trips in FY99 to 110.3 million in FY09.

RAIL SERVICE PLAN ASSUMPTIONS

BART's *Service Planning Model* is used to project the service plan elements for each fiscal year. The capital improvements in BART's *Capital Improvement Program* (CIP) are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

Key assumptions used to develop rail service plans include the ridership forecasts and constraints such as load factor standards, minimum service headways, train end-to-end run times, and modular train sizing rules. Service plan elements include expected load factors, headways, routes to be operated, number of trains on line, total cars required, control cars required, peak trains on line, number of cars in maintenance, car hours and car miles, and other parameters.

Capital Improvements

Achievement of the service expansion required to handle future patronage is predicated on the timely implementation of BART's Capital Improvement Program as documented in the FY99 CIP. This CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions, and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's FY99 *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Complete renovation the original 439 A- and B-cars.
- Renovation of stations, including automatic fare collection (AFC) equipment, escalators, and elevators.
- ADA accessibility improvements, including other elevator enhancements, parking, and signs.
- Renovation and replacement of communications and train control systems, including implementation of AATC on the M- and upper A-lines to support two-minute minimum headway capability and faster train run times.

- Renovation and expansion of shops and yards, and replacement of maintenance and other essential equipment.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA). The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The most recent FMP is currently being updated.

Operating Assumptions

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service will be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-West Bay, Dublin/Pleasanton-West Bay, and Richmond-Fremont.

Service by Route and Extension

BART's *Service Planning Model* was used to establish that the service frequencies and routes outlined here would allow provision of service where and when it is needed. The number of routes on each line of the BART system is both necessary and sufficient to meet future demand.

As demand increases, BART provides additional capacity first by lengthening scheduled trains and then, as headway reduction capability and fleet expansion and availability permit, by adding more trains and adjusting train lengths. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures.

The four-station San Francisco Airport Extension is projected to open in December 2001 (FY02). Service plan options for this extension are being evaluated. For this SRTP, car and train requirements are based on the following service assumptions:

- *YELLOW ROUTE*, Pittsburg/Bay Point-Transbay. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.

- *RED ROUTE*, Richmond-Transbay. Richmond-Transbay service is provided at a minimum weekday base headway of 15 minutes. During the off-peak, service on this

route terminates at Daly City Station. Currently, during the peak periods only, service extends south of Daly City Station to Colma Station. With the opening of the SFO Extension, it is anticipated that this route will terminate at Daly City.

- *GREEN ROUTE*, Fremont-Transbay. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont.

- *BLUE ROUTE*, Dublin/Pleasanton-Transbay. Service is currently provided on this route at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Dublin/Pleasanton. With the opening of the SFO Extension, it is anticipated that this route will extend service south of Daly City at a 15-minute headway.

- *ORANGE ROUTE*, Richmond-Fremont. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations.

- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE.* A three-car shuttle will be operated between these two stations when service south of Colma opens in FY02.

Line Headways and Train Run Times

Minimum scheduled line headways are currently 2.5 minutes for the Transbay tube, the section of the system with the heaviest train traffic. These current headways reflect the improvements of STEP, which modified the train control blocking system and made other changes to permit closer headways.

BART's *Advanced Automatic Train Control (AATC)*, now under development, will allow trains to follow each other more closely, with a resulting minimum scheduled transbay headway of 2.0 minutes. This improvement will permit a capacity of up to 30 trains per hour in the peak direction. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner, and reducing the number of cars required.

These service plans assume that AATC is installed by FY02 on the M- and upper A-Line (Daly City through Bay Fair). In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors.

In the event that AATC is implemented on additional segments of the BART system, service quality could be further improved due to further reduction in run times, causing a further increase in car availability.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two adjacent stations. The service plans in this SRTP are based on maintaining acceptable peak period load factor conditions on all peak trains. This means systemwide averages no greater than a 1.35 load factor during peak hour operations, and 1.15 during the shoulder periods, and a maximum load factor of 1.00 for each train for off-peak service.

Modular Train Sizing

The service plans also respect *modular train sizing.* BART has developed and uses this operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. Currently, BART sizes trains on a *5/10* and *4/8* basis for transbay service and on a *3/6/9* basis for the Richmond-Fremont East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a 10-car train in half to form two five-car trains, or breaking a four-car train from a eight-car train. On the East Bay route, nine-car trains can be split up into combinations of three- and six-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

Due to fleet size constraints, future train sizing plans include less symmetrical combinations of train lengths such as *5/9* on one or more transbay routes. However, the service plans presented here still assume that there are only two possible train lengths for each transbay route: a peak period length and a midday length.

Captive Fleet Program

BART's *Captive Fleet Program,* which assigns individual cars to a specific maintenance shop, has helped improve vehicle reliability. Accordingly, the service plans presented in this document return cars to the same yard from which they were dispatched earlier in the day.

RAIL SERVICE PLANS

Ridership growth over the SRTP forecast period for both the core system and extensions will require a larger fleet, more trains, and more frequent service relative to today's schedule. Figure 2-2 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 38.9% gain in ridership, from 79.4 million trips budgeted for FY99 to 110.3 million trips in FY09. Key elements of this expansion plan, the details of which are presented below, call for:

- Increasing BART's fleet from 669 vehicles currently to 697, with receipt of 28 more cars as part of the extension south of Colma to the San Francisco Airport.

Figure 2 - 2

PEAK PERIOD SERVICE REQUIREMENT (a)

FY99 BUDGET, FY00 - FY09 PROJECTED

TOTAL ONLINE TRAIN SUMMARY, BY ROUTE

		FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
RED	*Richmond*	9	9	9	9	9	9	10	10	10	10	10
YELLOW	*Pittsburg/Bay Pt.*	19	19	19	22	22	22	23	23	23	23	23
GREEN	*Fremont*	9	9	9	9	9	9	9	9	9	9	9
BLUE	*Dublin/Pleas.*	9	9	9	10	10	10	11	11	11	11	11
TRANSBAY Subtotal		46	46	46	50	50	50	53	53	53	53	53
ORANGE	*East Bay*	10	10	10	9	9	9	9	9	9	9	9
MB-SFIA SHUTTLE		---	---	---	1	1	1	1	1	1	1	1
SYSTEM TOTAL		56	56	56	60	60	60	63	63	63	63	63

TOTAL ONLINE CAR SUMMARY, BY ROUTE

		FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
RED	*Richmond*	90	90	90	90	90	90	90	90	90	90	90
YELLOW	*Pittsburg/Bay Pt.*	190	190	190	220	220	220	230	230	230	230	230
GREEN	*Fremont*	72	72	72	90	90	90	81	81	81	90	90
BLUE	*Dublin/Pleas. (b)*	72	72	72	100	100	100	99	99	99	99	99
TRANSBAY Subtotal		424	424	424	500	500	500	500	500	500	509	509
ORANGE	*East Bay*	63	63	63	54	54	54	57	57	57	57	57
MB-SFIA SHUTTLE		---	---	---	---	3	3	3	3	3	3	3
SYSTEM TOTAL		487	487	487	557	557	557	560	560	560	569	569

(a) Service levels as of June 30 of each fiscal year.

(b) In FY05, the addition of one extra train on the Blue route during the peak hour balances load factors between the Blue and Green routes and allows both routes to be operated with all nine-car trains.

- Adding seven trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 63, including one three-car shuttle train from Millbrae Station to the San Francisco Airport.

- Increasing transbay throughput from 21 trains per hour currently to 26 by reducing the system's minimum scheduled headway capability from two-minutes thirty seconds currently, to two minutes or less by with the implementation of AATC.

Car Requirements

The *Service Planning Model* produces the numerical elements of the Fleet Management Plan, including online car requirements, operating spares, number of cars in maintenance, and the number of control cars required. Car requirements are determined based on the need to carry patronage without exceeding load factor standards, subject to operational constraints such as modular train sizing. The number of cars in maintenance is determined from the car hours to be operated and the projected age and rehabilitation status of the fleet. The minimum number of control cars needed is determined based on the maximum train count for each route and the requirement to resize trains from peak service train lengths to midday service lengths.

As shown in Figure 2-2, BART's online car requirements are forecast to increase from 487 currently to 557 with the opening of the SFO Extension, to 569 by FY09, the latest year of this planning document. The SFO Extension project is purchasing 28 C-3 cars, increasing BART's operating fleet to a total of 697 cars. Based on the assumptions used in this forecast, as discussed below and shown in Figure 2-2, BART anticipates having sufficient vehicles to meet projected demand.

Maintenance Requirements

Maintenance is performed seven days a week, three shifts a day at each of BART's four shops. During the first two quarters of FY98, BART had an average of 120 cars not available for service at 4 a.m., due to preventative and unscheduled maintenance. It is projected that the A-and B-car renovation program will reduce the number of incidents requiring maintenance, and the capital investment programmed for BART maintenance shops will reduce downtime per incident, thus increasing the number of cars available for service. With these improvements, and the projected expansion of the fleet to 697 by FY02, the number of cars in for maintenance during the SRTP planning period is anticipated to range from 91 to 112.

Yard Logistics Cars

BART allocates a car to each of the Concord, Richmond, Hayward, and Daly City maintenance yards for logistical moves in assembling and disassembling trains. Accordingly, four cars have been carried forward throughout the planning period for this purpose.

Vehicle Renovation Program

Note that, through FY02, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. Once this program is completed in May 2002, the 36 cars will no longer be rotated out the fleet, and will be available to meet increased service needs.

Ready Reserve Cars

Ready reserves are cars used to form trains to be placed in stand-by mode. In the event that operational problems occur, such as a scheduled train being removed from service, a ready reserve train can be dispatched in the empty train slot to maintain scheduled headways and merging. An eight-car ready reserve train is stationed in each of BART's four yards. Service plans presented in this SRTP assume that ready reserve vehicles are to be used in revenue service when car deficits arise, such as when 36 vehicles are out for A- and B- car renovation, or in the event that the planned reduction of cars in maintenance is not achieved. Additionally, forecast growth in demand gradually requires the available vehicles for scheduled service, so ready reserves are reduced from the current level towards the end of the planning period.

ADA PARATRANSIT SERVICE PLAN

BART fulfills its ADA paratransit obligation through a variety of agreements with other transit operators and through participation in the East Bay Paratransit Consortium (EBPC), consisting of BART and AC Transit. By agreement, in the service area of the EBPC, BART and AC Transit jointly administer paratransit service through a contractor. BART assumes 31% and AC Transit 69% of the costs based on their proportionate areas of responsibility. In San Francisco, BART has entered a Memorandum of Understanding (MOU) with MUNI whereby MUNI provides service to meet BART's obligation and BART reimburses MUNI for 8.8% of the paratransit service to all San Francisco riders. Elsewhere, agreements provide for the local operators to receive California Transportation Development Act (TDA) funding as payment for providing for BART's obligation within the 0.75 mile radius of the stations. The local providers with which BART has agreements are: Contra Costa County Transit Authority (County Connections), Eastern Contra Costa Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT), and Livermore Amador Valley Transit Authority (LAVTA).

The data below summarize BART's share of anticipated annual ridership during FY99.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	223,200
San Francisco MUNI (8.8% of the program total)	104,470
Contra Costa (not including service provided by Fixed Route Operators)	31,345
Other East Bay service	13,548
TOTAL ANNUAL RIDERSHIP	**372,563**

Chapter 3

FISCAL YEAR FORECAST

and

FINANCIAL PLAN

BART's SRTP financial plan for FY99 through FY09 focuses on the fiscal requirements for providing service as described in Chapter 2. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY99 adopted budget is presented first, and is the foundation for the ten year projections. Following the FY99 adopted budget is a discussion of the principles used to develop the District's financial forecasts for FY00 through FY09.

It should be noted that the following financial plan includes the impact of the Colma and San Francisco Airport Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996. Analysis indicates that the implementation of the San Francisco Airport Extension, in accordance with the terms of this new agreement, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN -- FY99 ADOPTED OPERATING BUDGET

The foundation and starting point for the SRTP ten year financial plan is BART's adopted budget for FY99, the operating portion of which is summarized in Figure 3-1. This financial statement provides for full support during the fiscal year for core system operations and extensions service. The FY99 adopted operating budget also funds BART's ADA paratransit deficit, bond debt service for systemwide renovation, and other needed allocations. The budget includes $348.3 million in operating revenue and financial assistance, balancing an equal amount of operating expenses, debt service, and capital allocations. BART's FY99 adopted operating budget provides funding to augment five key areas of emphasis:

- Materials to maintain an aging system and improve reliability
- Service Delivery - Additional train operators and overtime to improve on time performance
- Elevator/escalator maintenance and cleanliness programs per ADA
- Higher utility costs
- Increased training

The adopted FY99 operating budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the inclusion of $4.1 million in cost reductions in the following areas: administration, power, and debt service.

Figure 3 - 1

FY 99 BART ADOPTED OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	168,200.0
Express Bus and Shuttles	500.0
Total Net Passenger Revenue	**168,700.0**
Interest Revenue	7,310.0
Other Operating Revenue	7,106.2
Subtotal Non-Fare Revenue	**14,416.2**
Total Operating Revenue	**183,116.2**
EXPENSE	
Net Labor	215,744.7
Express Bus Service	1,850.0
Shuttle Service	105.0
Purchased Transportation	3,160.7
ADA Service	6,846.4
Power, Traction & Station	20,740.0
Other Non-Labor	51,836.8
Total Operating Expense	**300,283.6**
OPERATING DEFICIT	**(117,167.4)**
FINANCIAL ASSISTANCE	
Sales Tax	150,724.0
Property Tax	13,670.9
State Transit Assistance (STA)	538.0
Transportation Development Act (TDA)	245.0
Total Financial Assistance	**165,177.9**
DEBT SERVICE & ALLOCATIONS	
Debt Service Allocations	(42,310.5)
Capital & Other Allocations	(5,700.0)
Total Debt Service & Allocations	**(48,010.5)**
FINANCIAL RESULT	**0.0**

On the revenue side, the adopted FY99 operating budget assumes that core system ridership will grow by its 1.5% long term average growth rate and that extensions ridership will grow by 11% as year 2000 EIR estimates are approached. The adopted FY99 operating budget assumes 4.5% annual sales tax growth over FY98 actual receipts.

The FY99 budget also assumes 2.3% annual growth for property tax revenues relative to FY98 receipts. The adopted FY99 operating budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The adopted budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and the start up of rail extensions operations.

FY99 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY99 is budgeted at $168.7 million, and is 3.4% higher than FY98's actual revenue of $163.1 million. This gain reflects the increased ridership at both core system and extension stations, and an adjustment to account for the impact of the one-week strike endured in FY98. ADA paratransit service passenger revenue is budgeted at $0.5 million in FY99.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.3 million in FY99. Other non-fare revenue line items include fiber optic joint development agreements, pay telephones, concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum station), fines, and forfeitures. Revenue from these sources is budgeted at $7.1 million.

FY99 Operating Expense

Total operating expense for FY99, which includes service for five extension stations, is budgeted at $300.3 million, 1.4% above FY98's actual expenses of $296.2 million. This increase reflects the labor agreements adopted in September 1997. It also includes additional funding for improved service delivery, ADA related elevator/escalator maintenance, and materials needed to maintain the aging system.

Labor Expense and Staffing

Labor expense, which constitutes approximately 71.8% of BART's operating budget, is set to rise from $213.4 million expended in FY98 to $215.7 million in FY99. This increase is primarily attributable to contractual 4% wage increases for all five BART

unions and 3% wage increases for non-represented staff, plus maintenance and some improvements to benefits of all bargaining units. The operating budget headcount is set to rise by 13 positions for ADA, service, and information technology related programs. These increases in staffing are to be mostly offset by a reduction in the administration headcount of 11.5. Total operating staffing is budgeted at 3,011 heads.

Feeder Bus and Shuttle Bus Service Expense

Effective July 1, 1998, express bus service was entirely transitioned to local transit operators. BART is scheduled to pay the local operators taking over this service $1.9 million in FY99 per the regional cost sharing agreement. At a FY99 expense of $0.1 million, BART continues to fund a portion of the AirBART shuttle service to the Oakland Airport.

ADA Paratransit Service Expense

ADA paratransit services are set to rise to $6.8 million in FY99 from the $5.3 million expended in FY98. This increase is consistent with the updated regional paratransit service forecasts.

Purchased Transportation Expense

The MUNI Transfer payment expense is a reimbursement to MUNI for providing feeder bus service to BART stations in San Francisco. The current agreement which governs this reimbursement ties this payment to the growth in sales tax. This expense amounted to $1.9 million in FY98, and is budgeted at $2.1 million in FY99.

Ridership projections indicate that approximately 3.7 million trips will either originate or end at the Colma station during FY99, generating $8.0 million in net rail passenger revenue. After taking into account both riders diverted from the Daly City station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY99 adopted budget projects that a $1.1 million net operating surplus will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 6.9% of the District's operating budget. Power expense is expected to increase 10.1%, from FY98's expense of $16.6 million to $20.7 million in FY99. The FY99 power expense figure shows a higher growth rate than other expense items because temporary federal power allocations have been reduced and long term power delivery arrangements with Pacific Gas & Electric (PG&E) are still being negotiated.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $51.8 million in FY99, compared to the FY98 expense of $55.8 million. The main uses of the funding in this expense category will be: materials for the maintenance

of the aging system, other ongoing materials and services, information systems, and utilities costs.

FY99 Financial Assistance

The District's FY99 operating budget includes $165.2 million from all sources of financial assistance; 3.4% over FY98's actual financial assistance of $159.7 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75% of this amount, with the remaining 25% shared by MUNI and AC Transit. The FY99 budget of $150.7 million for sales tax financial assistance reflects 4.5% growth over FY98 actual generations of $144.2 million. This 4.5% growth rate and the 6.8% growth experienced in FY98 average out to an annual growth rate of 5.6%, which is consistent with the long term average growth for this source of financial assistance.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expenses. The FY99 adopted budget sets property tax revenue at $13.7 million, which is 2.3% higher than FY98's collection of $13.4 million.

State Transportation Assistance (STA) / Transportation Development Act (TDA)

As part of its agreement with local operators to take over BART express bus service, BART will not be claiming the bulk of its STA and TDA financial assistance apportionments. MTC's FY99 Proposed Apportionment of regional assistance funds does, however, include $538,000 in Alameda County STA paratransit funds and $245,000 in Alameda County TDA Article 4.5 funds which BART may claim to fund its paratransit program.

FY99 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

Outstanding Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY99, BART will have $83.8 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $11.4 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $102.6 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. The combined FY99 debt service payment for these three bond sales will be $22.6 million.

March 1998 Sales Tax Revenue Bond Debt Service

In March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. This sale generated $129.1 million for future system renovation projects, with the balance going to refund or refinance earlier bond obligations. The FY99 debt service costs associated with the bond sale will be $19.7 million, yielding a total FY99 debt service line item of $42.3 million.

Capital Program Allocations

In line with the adopted 1996 SRTP, the FY99 adopted operating budget projects a $5.7 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above. Some $2 million of this FY99 capital allocation is to be used for the mid-life overhaul of the District's 150 C-1 rail cars. This overhaul involves upgrading the cars' interior, exterior, air conditioning, and other system components.

FY99 Financial Result and Indicators

The District's FY99 adopted operating budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations.

Farebox Ratios

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to go from 56.8% in FY98 to 58.3% in FY99. ADA paratransit service is forecast to have an 7.3% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 56.2% in FY99, increasing from FY98's 55.1%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. Increased non-passenger operating revenue collections due to fiber optic lease agreements in FY99 will result in a 61.0% operating ratio, which compares favorably to the 59.7% operating ratio for FY98.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile was 28.9¢ in FY98. The FY99 budget calls for this measure to decrease 4.2% to 27.7¢ per passenger mile. This decline is related to the occurrence of one-time expenditures incurred in FY98 that will not be carried forward into FY99.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's adopted budget for FY99 is the foundation for the SRTP financial plan for fiscal years 2000 through 2009. The

discussion below turns to the principles which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles For Developing the Financial Plan

BART's financial plan for fiscal years 2000 through 2009 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecast for passenger revenue should be based on ridership projections which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for core system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for extensions which are identified in adopted environmental documentation. The SRTP financial plan assumes that fare levels are maintained at their current rates.

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at an annual 3.0% CPI rate for the entire SRTP planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 2. The expense projections also include the savings resulting from the implementation of cost reduction measures discussed in the introduction to the FY99 adopted budget, above, and others which could be successfully implemented. Other expense items include required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by a 3.0% annual CPI factor.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** MTC's long term forecast for annual sales tax growth in the three BART counties is 5.6%. (This figure is also consistent with the actual annual

growth rate for the BART sales tax). The FY99 SRTP also assumes STA or TDA funding for ADA paratransit services grow by this same 5.6% annual rate.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on a continuation of recent increases in activity in the Bay Area's real estate market.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY98 and FY99, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and comply with federal ADA paratransit service requirements.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues and the fare increase package adopted in January 1995. The debt service requirement for the first and second issues of these bonds is covered by the fare increase package (i.e., through FY98). The third issue of system renovation bonds is scheduled to add $10 million in debt service expenses beginning in FY00.

In addition to the above fiscal obligations is the projected need for allocations of $98.4 million from the District's operating budget to support BART's ten-year capital program (refer to the FY99 CIP). These allocations consist of $59 million remaining from the FY98 SRTP's program of $76 million in capital allocations for System Renovation, as well as additional allocations of $2.8 million towards the $7.5 million SFO CAPRA contribution, $7 million towards the $10 million C-1 Car Overhaul program, and $29.6 million for outyear continuous renovation needs.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance per the federal mandate. As discussed above, the District's FY99 budget provides for full ADA paratransit service support, budgeted at $6.8 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 3-2, the base forecast builds upon the District's FY99 adopted budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast is discussed below. Identified are cost reduction measures, adjustments to revenue and expense, and the underlying assumptions for each element.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 2 and earlier in this chapter. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. Based on the methodology described above, rail passenger revenue is projected to increase, from $172.7 million in FY00, to $246.1 million in FY09.

Trips which involve San Mateo County station use are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the San Francisco Airport Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (June 1997), and the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997).

SamTrans will be responsible for paying any net operating deficit on the BART Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program. The Net Rail Passenger Revenues documented in Table 3-2 assume that, at each of the West Bay extensions stations, a 76 cent surcharge is applied to the regular fare.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFIA) will require BART to pay $2.5 million in annual rent to the SFIA. This rental

Figure 3-2

FY99 SRTP Financial Forecast

All Dollar Figures are in Millions

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	Adopted Budget FY 99	FY 00	FY 01	SFO 12/31/01 FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
REVENUE											
Net Rail Passenger Revenue	168.2	172.7	176.5	192.6	218.0	224.4	234.0	237.2	240.4	242.8	246.1
SFIA $1.50 Premium Surcharge Revenue	0.0	0.0	0.0	1.7	4.0	4.8	5.8	5.7	5.7	5.8	5.9
ADA Service Passenger Revenue	0.5	0.5	0.5	0.6	0.6	0.8	0.7	0.7	0.7	0.7	0.7
Total Net Passenger Revenue	168.7	173.2	177.0	194.9	220.7	229.9	240.2	243.5	246.8	249.3	252.8
Interest Revenue	7.3	7.5	7.8	8.0	8.2	8.5	8.7	9.0	9.3	9.5	9.8
Fiber Optic Revenue	2.3	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.1
Other Operating Revenue	4.8	5.5	5.7	5.9	6.1	6.3	6.4	6.6	6.8	7.0	7.3
Subtotal Non-Fare Revenue	14.4	15.4	15.9	16.4	16.9	17.4	17.9	18.5	19.0	19.8	20.2
Total Operating Revenue	183.1	188.6	192.9	211.2	237.5	247.3	258.1	262.0	265.9	268.9	272.9
EXPENSE											
Net Labor	215.7	228.3	238.8	260.6	275.2	286.1	297.0	308.7	318.5	329.1	340.0
Traction/Station Power, with lease costs	20.7	18.0	18.0	21.1	23.1	23.8	24.4	25.2	25.9	26.9	27.7
SFIA Rent	0.0	0.0	0.0	1.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	51.8	53.0	55.3	59.2	64.1	66.0	69.0	71.3	74.1	76.6	80.1
Subtotal Net Rail Expense	288.3	299.3	312.1	342.2	365.0	378.4	393.0	407.7	421.0	435.1	450.2
Feeder Bus Service (local op subsidy)	1.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	2.1	2.2	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4	3.6
Purchased Transportation (SamTrans Serv Agrr	1.1	0.9	0.8	2.1	6.4	8.9	0.0	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.8	7.1	7.3	7.9	8.5	8.8	9.0	9.3	9.8	9.8	10.1
Subtotal Non-Rail Expense	12.0	12.7	12.9	15.0	20.0	23.0	14.5	14.9	15.4	15.9	16.3
Total Operating Expense	300.3	312.1	325.0	357.2	385.0	401.4	407.5	422.6	436.4	450.9	466.6
OPERATING DEFICIT	(117.2)	(123.5)	(132.1)	(145.9)	(147.5)	(154.1)	(149.4)	(160.6)	(170.5)	(182.0)	(193.8)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	150.7	159.2	168.1	177.5	187.4	197.9	209.0	220.7	233.1	246.1	259.9
Property Tax Proceeds	13.7	14.2	14.8	15.4	16.0	16.6	17.3	18.0	18.7	19.5	20.2
STA & TDA Assist for ADA & Gen Op	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4
Total Financial Assistance	165.2	174.2	183.7	193.8	204.4	215.8	227.4	239.9	253.0	266.9	281.5
DEBT SERVICE & ALLOCATIONS											
Prior Year Sales Tax Rev. Bonds	(42.3)	(40.8)	(40.9)	(41.0)	(41.2)	(41.3)	(41.4)	(41.6)	(41.7)	(41.9)	(42.0)
Future System Renovation Bonds	0.0	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
SF CAPRA Debt Service	0.0	0.0	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)
BART-SamTrans Allocation to E. Bay Ext.	0.0	0.0	0.0	(0.5)	(3.9)	(6.4)	(20.0)	(19.5)	(19.0)	(18.4)	(17.4)
Capital Program Allocations	(3.7)	(2.9)	(2.2)	(4.0)	(10.0)	(13.0)	(10.3)	(15.7)	(7.1)	(9.3)	(13.1)
C-1 Car 10 Year Overhaul Allocations	(2.0)	(2.0)	(1.0)	(1.0)	(1.0)	0.0	0.0	0.0	0.0	0.0	0.0
PERS Reserve Account	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(48.0)	(52.6)	(59.5)	(61.9)	(71.4)	(76.1)	(87.0)	(92.1)	(83.2)	(84.9)	(87.9)
ADDITIONAL COST CONTAINMENT & REVENUE ENHANCEMENTS	0.0	1.8	7.8	14.1	14.5	14.6	9.0	12.9	0.7	0.0	0.0
ANNUAL FINANCIAL RESULT	0.0	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0	(0.0)	0.0	0.0
BEGINNING YEAR BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CUMULATIVE BALANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PATRONAGE											
Systemwide Average Weekday Trips (000's)	271.4	277.9	283.5	305.4	334.5	347.3	358.7	363.7	368.8	373.9	379.1
Systemwide Total Annual Trips (000's)	78,398.2	81,128.0	82,784.1	88,579.9	97,331.5	100,709.6	104,749.8	106,203.1	107,680.7	108,806.1	110,322.2

payment will be funded from additional fare surcharges at San Mateo County stations. The Agreement also requires that airline employees using the BART-SFIA station receive a 25 percent discount off their fares. The proceeds from these additional surcharges and revenue loss associated with the airline employee discount are both included in the Net Rail Passenger Revenue line in Table 3-2.

San Francisco International Airport Premium Surcharges

In FY02, with the initiation of revenue service on the Extension, the District will, if need be, implement an additional $1.50 surcharge on all trips using the BART station at the San Francisco International Airport. Per the terms of the FFGA with the FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding potential cost overruns on the San Francisco Airport Extension.

The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, will result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY03, growing to $5.9 million by FY09.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue assumes that ridership for this service will grow at constant 7.3 percent of ADA paratransit costs. BART's forecast for ADA paratransit passenger revenue is $0.5 million in FY00, growing to $0.7 million by FY09.

Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $173.2 million in FY00 to $252.8 million in FY09.

Operating Revenue From Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the 3.0% annual CPI growth rates, from $5.5 million in FY00 to $7.3 million in FY09. Beginning in FY99, additional operating revenue will be generated by telecommunications fiber optics agreements. Revenue for current contracts is anticipated to yield $2.4 million in FY00 growing to $3.1 million by FY09. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $7.5 million in FY00, growing to $9.8 million in FY09.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's total operating revenue is projected to grow from $188.6 million in FY00 to $272.9 million in FY09.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY99 adopted budget, with adjustments made to reflect expense reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the projected service levels for rail operations, as discussed in Chapter 2. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles
- Annual train hours

Additionally, the model input includes assumptions for the consumer price index. The FY99 SRTP assumes a 3.0% annual CPI growth rate.

Staffing and Labor Expense

Labor expense growth reflects the annual wage, salary, and benefit increases included in the FY98 through FY01 adopted labor agreements. In addition, labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increase in staffing is forecast to occur in FY02, when SFO Extension service begins. Labor expense is forecast to grow from $228.3 million in FY00 to $340.0 million in FY09. (These figures include PERS retirement expenses).

Traction and Station Power Expense

The FY00 annual power budget forecast is approximately $3 million less than the FY99 annual power budget mostly due to: A favorable ruling by the Federal Energy Regulatory Commission (FERC) requiring Pacific Gas and Electric (PG&E) to deliver 70 megawatts of federal power to BART using the Network Open Access Transmission Tariff, and Passage of legislation prohibiting PG&E and the California Public Utilities Commission (CPUC) from requiring BART to be subject to the new Direct Access Program in connection with the restructuring of the California power industry.

Future power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat from FY00 through FY01, per a tentative five year PG&E rate freeze. The projected amount of power consumption is scheduled to increase with the opening of the SFO Extension in FY02. From FY03 to FY09 the basic cost per unit of power is assumed to grow at 3.0% annually.

SFIA Rental Payment

As discussed in the Revenue section, BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to the SFIA. This payment will begin in the third quarter of FY02, and will remain at $2.5 million per year over a 50 year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $53.0 million in FY00 to $80.1 million in FY09.

Feeder Bus Service (Local Operator Subsidy) Expense

In accordance with the negotiations with MTC and the local bus operators serving BART's current express bus corridors, the FY99 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million annual subsidy payment beginning in FY00 to FY09 to these operators. This payment will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, and temporary shuttles such as those needed for bus bridges due to cessation of rail service. This expense is forecast to grow at 3.0% annually through FY09 and amounts to approximately $0.1 million in each fiscal year from FY99 through FY09.

Purchased Transportation (Muni)

The formula which defines the reimbursement for providing feeder service to BART from MUNI is tied to sales tax growth. Purchased transportation expenses for MUNI transfers is forecast to grow from $2.2 million in FY00 to $3.6 million in FY09.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A surplus payment of $1.1 million is budgeted for FY99. This amount will decrease to $0.9 million in FY00 as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans will increase again in FY02 because, per the amended BART-SamTrans Agreement,

SamTrans is entitled to half of the San Francisco Airport Extension net operating surplus during its first three years of operation. After these three years pass, all net operating surpluses generated will accrue to BART's Eastbay Extensions.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY09. ADA expenses are assumed to increase by the combined growth in CPI inflation and the number of stations in the BART system. On this basis, ADA paratransit expense is forecast to grow from $7.1 million in FY00 to $10.1 million in FY09.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $312.1 million in FY00 growing, by the combination of system expansion and CPI growth, to $466.6 million in FY09.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY99 adopted budget portion of this chapter. The forecast for financial assistance through FY09 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The base long term forecast for annual sales tax growth is 5.6%. This forecast matches the District's long term sales tax growth rate as well as MTC's regional growth rate projections for sales tax revenue in the three-county BART district. With this growth factor the amounts collected would be $159.2 million in FY00, which grows to $259.9 million in FY09.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY00 through FY09. Financial assistance from property taxes is forecast to be $14.2 million in FY00, growing to $20.2 million in FY09.

STA & TDA Financial Assistance

Since STA & TDA assistance is tied to sales tax collections, it is also projected to grow at a 5.6% annual rate. This small amount of assistance, growing from $0.8 million in FY00 to $1.4 million in FY09, is programmed for BART's ADA paratransit program.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $174.2 million in FY00 to $281.5 million in FY09.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY00, BART will have $75.6 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $9.5 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $99.3 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. The combined FY00 debt service payment for these three bond sales will be $22.7 million. As the principal on these bonds is retired, annual debt service will decline to $10.6 million by FY09.

In March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. This sale generated $129.1 million for future system renovation projects, with the balance going to refund or refinance earlier bond obligations. The FY00 debt service costs associated with this bond sale and refunding will be $18.1 million, yielding a total combined FY00 debt service from existing bond sales of $40.8 million. The debt service on the March 1998 bond sale and refunding is backloaded so that total combined debt service costs remain relatively flat into the future, thus FY09 combined debt service costs will be $42 million.

Future System Renovation Bond Debt Service

The District's contribution to the cost of its System Renovation program is being made, in large part, through the sale of sales tax revenue bonds. To date $264 million in bond proceeds have been contributed to the program. An additional bond sale of approximately $129 million is planned for FY00. The annual debt service costs of this future bond sale are $10 million.

SFO Capital Reserve Account (CAPRA)

The FFGA for the San Francisco Airport Extension includes a section which requires BART to set aside funds in a CAPRA dedicated towards paying for potential ineligible costs on the San Francisco Airport Extension. The CAPRA set aside consists of two components: directs allocation from the operating budget and the sale of revenue bonds backed by fare surcharges. The Capital Allocations line item for FY00 includes $2.8 million for the SFO CAPRA. Beginning in FY01, the District will begin paying the debt service on $71.7 million in bonds which are backed by the revenue generated from the 76 cent surcharge collected at Daly City Station and the revenue generated by an additional $1.50 surcharge on all trips using the San Francisco International Airport BART Station. This $71.7 million in total bond proceeds would have an annual debt service requirement of $5.3 million.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the implementation of the San Francisco Airport Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. For the first three fiscal years of revenue service SamTrans will share this surplus evenly with BART. In FY05 -- the fourth year of operations -- the entire $20 million projected surplus will be transferred to the East Bay Extensions Program. These surpluses could decline slightly after FY05 as fare revenue growth is outpaced by the growth in operating costs attributed to the extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans $145 million remaining Buy-in commitment is liquidated. Annual surpluses will be split by the two parties once this $145 million is generated.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $59 million between FY99 and FY06 to support the District's Capital Improvement Program (CIP) fiscal needs. (This $59 million is the amount remaining from the FY98 SRTP program of $76 million in capital allocations). Without these allocations, critically needed projects would have to be delayed. As shown in Figure 3-2, annual capital allocations in the range of $2 million to $4 million are provided in FY00 through FY02. Larger annual capital allocations, in the $10 million to $16 million range, are provided in FY03 through FY06. Outyear allocations totaling $29.6 million have been added in FY07 through FY09 to fund ongoing capital equipment needs.

C1 Car Mid-Life Overhaul Allocations

The District proposes to initiate at the close of FY98 a $10 million program to overhaul its 10-year old fleet of 150 C1 cars. This overhaul would involve the upgrade of the cars' interior, exterior, air conditioning, and other electronic systems. When implemented this overhaul would assure that these cars can reach the end of their 25 year useful life without a deterioration in their reliability. With $3 million of this program funded out of FY98 revenues, the balance shown in this SRTP update is $7 million spread over FY99 through FY03.

PERS Reserve Account Allocations

To reduce the District's liability with regard to resumption of PERS payments, a total of $3.2 million was budgeted and allocated to a special PERS reserve account during FY96 and FY97. The financial forecast assumes the funds in this reserve account will be used to supplement the District's FY00 operating budget.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $52.6 million in FY00. Annual debt service and allocations will reach a high of $92.1 million in FY06, and end at $87.9 million in FY09

Additional Cost Containment and Revenue Enhancements

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 3-3, which identifies actual fiscal year expense for fiscal years 1986 through 1998. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs which were published five years earlier.

As indicated in Figure 3-3, the District has a record of consistently managing its expenses to lower actual budgeted levels in any given fiscal year relative to the amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations. With the ten year $5.1 billion program (representing Expenses in combination with Debt Service & Allocations) presented in this SRTP's base forecast, every 1% savings translates to a $51 million reduction in total program costs over the ten years. Thus the entire ten year program could be balanced with savings of less than 2% of the projected level of Expenses and Debt Service & Allocations.

Specific Strategies to Address Cost Containment & Revenue Enhancement Needs

Cost containment is a significant aspect of how BART has provided and will continue to provide sufficient resources to meet its financial needs, while improving and expanding service. A second important aspect of BART's overall financial strategy is revenue enhancement.

The last year has seen major progress made in the area of long term cost containment. The sale and refinancing of sales tax revenue bonds which was concluded in March 1998 resulted in a significant net annual savings. When these savings are combined with the savings projected from the next planned sales tax revenue bond sale, a total annual savings during the SRTP period of approximately $16 million results. An additional savings of $3 million annually has been achieved in traction and station power expenses. These savings will more than offset the additional expenses associated with the labor agreements approved in September 1997 and the additional capital allocations scheduled for the near-term overhaul of the District's 10 year old fleet of C1 cars and the outyear purchase of capital equipment. As a result, the $75 million in total cost containment and revenue enhancement projected in the FY99 SRTP financial

Figure 3 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

Variances Reflect Efforts to Contain and/or Reduce Costs As Well as Changes in Assumptions for Extension Start Dates, Fleet Size, and CPI

Dollar Figures in Millions

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK		SRTP, 5-YEAR LOOK	
		Forecast	% vs Actual	Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.6	208.2	0.8%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
97	267.7	269.1	0.5%	319.7	19.4%
98	296.2	288.9	-2.5%	344.9	16.4%
Average	---	---	**1.2%**	---	**15.8%**

Note: The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier. FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier, in 1981.

plan is thirty six percent less than that the $117 million projected the FY98 SRTP financial plan.

There are a number of specific strategies which can be implemented at various distinct points during the 10 year SRTP time frame to generate $75 million. Some needs are still a few years away, and the financial outcomes and decisions of the intervening years will help direct the District towards the specific timing and combination of strategies which would be most appropriate. The next two to three years will, therefore, be a time for focused decisions by the BART Board of Directors on these matters.

Cost Containment Strategies

1. *Revised Bond Sale Schedule:* The sale or delivery of the $129 million in bonds needed for the remaining quantity order on the A&B Rehabilitation contract is currently scheduled to occur in early FY00. Because the District will commit to the remaining quantity order on a periodic basis between FY99 and FY02, the District may be able to defer the sale or delivery of all or a portion of these bonds to FY01. Deferred sale or delivery could delay or reduce the additional annual debt service costs scheduled to commence in FY00 by as much as one full year. Deferring debt service costs on this $129 million in bonds from FY00 to FY01 would save the District approximately $10 million over the ten year period.

2. *Reduced Car Miles:* The FY99 Adopted Operating Budget reflects a reduction of 1.4 million car miles from the prior year's budget due to more aggressive train resizing. Additional future reductions in car miles from train resizing would increase the complexity of operating the system, but could yield additional annual savings.

Revenue Enhancement

1. *TRACS Fiber Optic Revenues:* Annual revenues from BART's Agreement with MFS Technologies are included in the SRTP revenue projections only for contracts which have been executed to date. With continued strong interest from new vendors wanting to install fiber optic cables in the BART right-of-way there could be an additional $1 million to $2 million annually from this revenue source.

2. *County Transportation Sales Tax Measures:* While the initial attempt at the Alameda County Measure B half cent sales rollover was not approved at its June 1998 election, there is a possibility that another version of the measure will be approved before the current measure expires in 2002. A later version of the Measure B expenditure plan could include funding for BART's ADA paratransit and capital programs. In addition, there will be opportunities in the future to work with Contra Costa and San Francisco Counties in the development of the expenditure plans for the rollover of their half cent transportation sales taxes.

3. *Passenger Fees:* General fare increases equal to approximately one-third of the CPI growth over the next ten years would alone be able to raise sufficient revenue to

achieve the FY99 SRTP financial plan's cost containment and revenue enhancement projections. In addition, the imposition of daily charges on a limited number of the District's 42,000 parking spaces could generate a few million dollars per year (net of the cost of administering these charges).

4. *Additional Capital Funds:* BART's Capital Improvement Program employs projections of Federal and State capital grant revenues which are equal to 75 percent of the funding levels included in MTC's estimates of the funds available from the recently passed the Federal Transportation Equity Act for the 21st Century (TEA-21), which increased transportation funding by over 40 percent from the previous federal program. Should the MTC Region realize more than 75 percent of the Federal and State funding levels included in these TEA-21 estimates, then additional grant revenues could become available for the District's System Renovation program. These additional funds could reduce the need to make annual allocations from the operating budget for this program. BART has also generated capital funds from alternative funding programs such as cross border lease transactions and the right of way leasing to fiber optic network providers noted above. BART will continue to pursue alternative funding opportunities in the future.

Financial Performance and Indicators

Farebox Ratio

As documented in Figure 3-4, the farebox ratio for rail operations is forecast to start out at 57.7% in FY00, and grows to 59.5% in FY05, reflecting the full build up of the ridership and revenue for the San Francisco Airport extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio will decline after FY05 to 54.7% by FY09. The ADA paratransit farebox ratio is forecast to remain at or about 7.3% over the 10 year period. The systemwide farebox ratio is forecast to be 55.5% in FY00, growing to 58.9% in FY05 before declining to 54.2% in FY09.

Operating Ratio

The system operating ratio is forecast to be 60.4% in FY00, increasing to 63.3% in FY05, and then decreasing to 58.5% in FY09.

Rail Cost Per Passenger Mile

BART's rail cost per passenger mile is projected to be 28.0¢ in FY00. Growth in passenger trips at a rate higher than the growth in rail operating costs helps BART to improve this level of productivity up to FY05, when the rail cost per passenger mile is projected to be 27.1¢. Annual CPI growth in excess of passenger mile growth after FY06 results in these unit costs growing to 29.5¢ by FY09.

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

Figure 3 - 4

FY 99 SRTP
BASE FINANCIAL FORECAST
Financial Performance Indicators

		Adopted Budget FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Farebox Ratios:	Rail	58.3%	57.7%	56.6%	56.3%	59.2%	59.3%	59.5%	58.2%	57.1%	55.8%	54.7%
	ADA	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
	System	56.2%	55.5%	54.5%	54.6%	57.3%	57.3%	58.9%	57.6%	56.6%	55.3%	54.2%
System Operating Ratio		61.0%	60.4%	59.4%	59.1%	61.7%	61.6%	63.3%	62.0%	60.9%	59.6%	58.5%
Rail Cost Per Passenger Mile		$0.277	$0.280	$0.285	$0.287	$0.274	$0.273	$0.271	$0.278	$0.283	$0.289	$0.295

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BART

San Francisco Bay Area
Rapid Transit District

FISCAL YEAR 2000
SHORT RANGE TRANSIT PLAN

July 1999 through June 2010
FISCAL YEARS 2000 THROUGH 2010

DRAFT June 10, 1999

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FISCAL YEAR 2000

SHORT RANGE TRANSIT PLAN

Fiscal Years 2000 through 2010

The preparation of this report has been financed in part through a grant from the United States Department of Transportation (USDOT), Federal Transit Administration (FTA) under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission (MTC). This report has been prepared in conformance with MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART, which is responsible for the facts, and accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the USDOT. This report does not constitute a standard, specification or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

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San Francisco Bay Area Rapid Transit District

June 10, 1999

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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List of Acronyms

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
ACTransit	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
APTA	American Public Transit Association
BART	(San Francisco) Bay Area Rapid Transit District
Caltrans	California Department of Transportation
CAPRA	Capital Reserve Account
CCJPA	Capitol Corridor Joint Powers Authority
CIP	(BART) Capital Improvement Program
CMA	Congestion Management Agency
County Connection	Contra Costa County Transit Authority
CPI	Consumer Price Index
EBPC	East Bay Paratransit Consortium
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FMP	Fleet Management Plan
FTA	Federal Transit Administration
FY	Fiscal Year (July 1 - June 30 for BART)
LAVTA	Livermore Amador Valley Transit Authority
MFSNT	MFS Network Technologies
MOU	Memorandum of Understanding
MTC	Metropolitan Transportation Commission
MUNI	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	(California) Public Employees Retirement System
PG&E	Pacific Gas and Electric
ROW	Right-of-way
RTC	Regional Transit Connection
RTP	Regional Transportation Plan
SamTrans	San Mateo County Transit District
SFO	San Francisco International Airport
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
TAZ	Transportation Analysis Zone
TBT	Technology Based Training
TDA	(California) Transportation Development Act
TLC	Transportation for Livable Communities
TOD	Transit Oriented Development
TriDelta	Eastern Contra Cost Transit Authority
VTA	(Santa Clara County) Valley Transit Authority
WestCAT	Western Contra Costa Transit Authority (WestCAT)

Introduction

Developed and prepared in compliance with the Metropolitan Transportation Commission's guidelines and principles, BART's FY00 Short Range Transit Plan (SRTP) reflects the District's efforts to provide safe, reliable, and efficient service to the San Francisco Bay Area. This SRTP frames the District's challenges in the coming ten years by focusing on BART's operational requirements and underlying financial plans. The District's Capital Improvement Program supports the planned service and operational needs presented in this SRTP.

The SRTP is divided into four chapters. Chapter One presents a brief history of the BART District, as well as an overview of the current organization, major capital plant, workforce, rail and paratransit service, and fare structure. Chapter Two, new to the SRTP this year, details the framework of the District's recently adopted Strategic Plan and discusses current and planned efforts undertaken by BART that address the spirit of the Strategic Plan. Chapter Three, Service and Program Evaluation, describes current ridership and service and the methodology for forecasting ridership expansion and service needs and improvements. Chapter Four, Fiscal Year Forecast and Financial Plan, focuses on the financial assumptions and requirements of providing the service described in Chapter Three.

CHAPTER 1 BACKGROUND AND OVERVIEW

The San Francisco Bay Area Rapid Transit District was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. In 1962, voter approval of a $792 million general obligation bond issue in San Francisco, Alameda and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71-mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's Fiscal Year (FY) 2000 preliminary budgeted workforce includes 3,438 full-time equivalent positions, 3,057 of which are for operations and 381 for capital projects. BART's departments are presented in the organization chart in Figure 1-1.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations and an administration and operations control center. Capital improvements made over the past 26 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer and six additional stations. Embarcadero station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996 and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-2.

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 42 are currently control equipped). A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990 and newer C2-cars in 1995 and 1996. Control equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 feet by 10.5 feet, and can be used as lead, mid-train, or trail vehicles.

Trains are operated from the lead A- or C-car and train movements are automatically controlled by computers located along the right-of-way. System train supervision is provided by BART's train control computer at the Operations Control Center, located in the Lake Merritt Administration Building in downtown Oakland. However, train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80-mile per hour speed. Revenue service is based on a 70-mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 35-miles per hour.

BART is currently renovating all 439 A-and B-cars. The renovation program will disassemble and completely repair, upgrade and rebuild the cars, restoring them to like-new condition. Up to 36 vehicles at a time are rotated out of the fleet and placed in production at the ABB Daimler-Benz Transportation, North America, (Adtranz) renovation facility in Pittsburg, California. These vehicles will be unavailable for service for periods of 2 to 18 months each and the last car is scheduled to return to service in December 2002. As of April 1999, 22 cars have successfully completed all acceptance tests and are available for revenue service.

SANFRANCISO BAY AREA RAPID TRANSIT DISTRICT
FY00 BUDGET
ORGANIZATION CHART

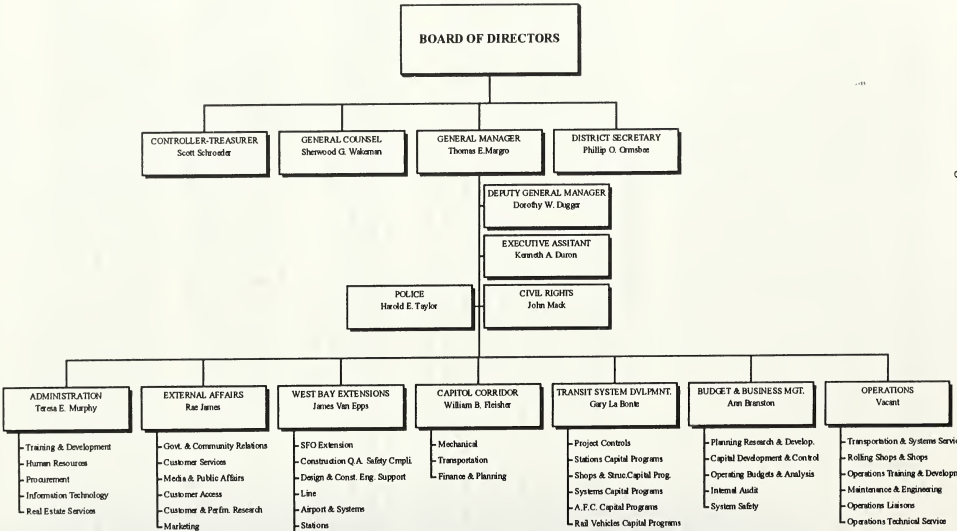
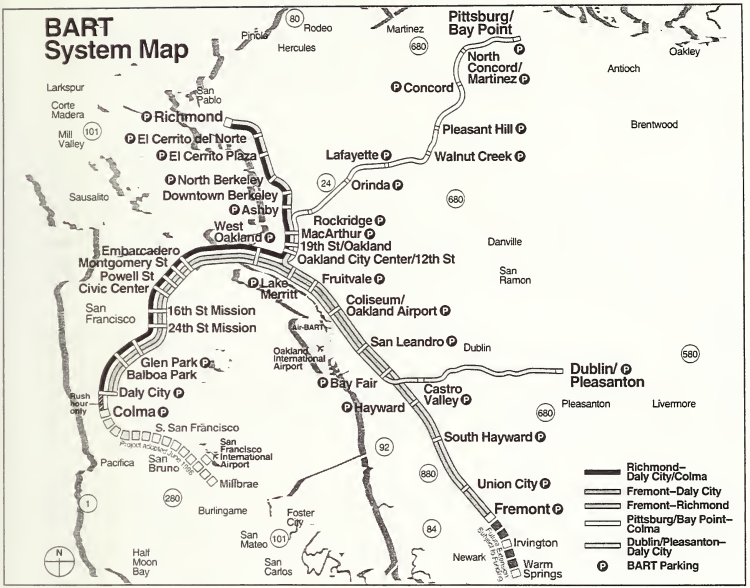


Figure 1 - 1

Figure 1 - 2


BART System Map
Pittsburg/ Bay Point
Rodeo
Martinez
Hercules
Pinole
North Concord/ Martinez
Oakley
Antioch
Concord
Larkspur
Corte Madera
San Pablo
Richmond
Pleasant Hill
Brentwood
Mill Valley
El Cerrito del Norte
El Cerrito Plaza
Lafayette
Walnut Creek
North Berkeley
Downtown Berkeley
Orinda
Sausalito
Ashby
West Oakland
Rockridge
MacArthur
19th St/Oakland
Oakland City Center/12th St
Danville
Embarcadero
Montgomery St
Powell St
Civic Center
Lake Merritt
Fruitvale
San Ramon
Coliseum/ Oakland Airport
San Francisco
16th St Mission
24th St Mission
San Leandro
Dublin
Oakland International Airport
Glen Park
Balboa Park
Bay Fair
Dublin/ Pleasanton
Daly City
Castro Valley
Rush hour only
Hayward
Pleasanton
Livermore
Colma
S. San Francisco
South Hayward
San Francisco International Airport
Pacifica
San Bruno
Millbrae
Union City
Richmond–Daly City/Colma
Fremont–Daly City
Fremont–Richmond
Pittsburg/Bay Point–Colma
Dublin/Pleasanton–Daly City
BART Parking
Burlingame
Foster City
Fremont
San Mateo
Irvington
Half Moon Bay
San Carlos
Newark
Warm Springs

Track and Right-of-Way

BART is a third rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 95 miles of continuously welded, double-mainline, 66-inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward and Richmond) and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, the Oakland Shops, is located between Lake Merritt and Fruitvale Stations and provides support to buildings, grounds and equipment other than rail vehicles.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland and Berkeley downtown areas and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators that link various levels to streets, connecting local transit and parking areas. Automatic fare collection equipment is located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit and other information to assist BART riders. A public address system linked to BART's Operations Control Center (OCC) is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks and lockers and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-3) consists of 41,455 free spaces at 28 stations and 211 spaces at Lake Merritt Station at a daily charge of 25¢.

Figure 1 - 3

BART PARKING SPACE INVENTORY
EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF MAY 99	PLANNED FOR FY00 - FY10	TOTAL PROJECTED BY FY10
SAN FRANCISCO LINE:			
Colma (a)	2,491	0	2,491
Daly City	2,076	0	2,076
Glen Park	54	0	54
West Oakland (b)	419	0	419
Subtotal	5,040	0	5,040
FREMONT LINE:			
Fremont	2,197	0	2,197
Union City	1,196	0	1,196
South Hayward	1,314	0	1,314
Hayward	1,465	0	1,465
Bay Fair	1,639	0	1,639
San Leandro	1,234	0	1,234
Coliseum	1,026	0	1,026
Fruitvale	1,070	0	1,070
Lake Merritt	211	0	211
Subtotal	11,352	0	11,352
RICHMOND LINE:			
Richmond	789	0	789
El Cerrito del Norte	2,247	0	2,247
El Cerrito Plaza (c)	791	500	1,291
North Berkeley	806	0	806
Ashby	570	0	570
MacArthur	608	0	608
Subtotal	5,811	500	6,311
CONCORD LINE:			
Pittsburg/Bay Point	2,032	0	2,032
North Concord/Martinez	1,975	0	1,975
Concord	2,513	0	2,513
Pleasant Hill (d)	3,450	0	3,450
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,385	0	1,385
Rockridge	886	0	886
Subtotal	15,728	0	15,728
DUBLIN/LIVERMORE LINE:			
Castro Valley	1,123	0	1,123
Dublin/Pleasanton	2,612	0	2,612
Subtotal	3,735	0	3,735
EXISTING STATIONS TOTAL	41,666	500	42,166
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	0	5,337	5,337
SYSTEM GRAND TOTAL	41,666	5,837	47,503

(a) Colma Station includes 1,074 spaces in the SamTrans surface parking lot.

(b) A future parking project is subject to reevaluation and identification of a funding source.

(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station

(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's OCC and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer provides overall systemwide supervision of train movements 24-hours a day. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

KEY CHARACTERISTICS OF BART'S WORKFORCE

Behind the physical plant of BART stands 3,396 currently active, dedicated employees of the District. The average BART employee has worked with the District for 11.7 years and the longest employed person was hired on July 1, 1966. The youngest person employed by BART is currently 20 years old, the oldest is 73 years of age, with the average age of 46.4 years. The average BART employee salary is just over $51,000 per year.

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-4 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

April 1999

	TRANSBAY ROUTES				EASTBAY ROUTE	SAN FRANCISCO
	Pittsburg/ Bay Point - Colma	Fremont - Daly City	Dublin/ Pleasanton - Daly City	Richmond - Daly City (a)	Fremont - Richmond	Embarcadero Civic Center
***HEADWAY** (minutes)*						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY						
Day	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY						
Day	20.0	(b)	20.0	(b)	20.0	10.0
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train leaves	03:59	05:05 (c)	03:58	04:56 (c)	04:00	04:20
Last Train arrives	01:24	21:23 (c)	01:26	21:01 (c)	01:27	01:07
SATURDAY						
First Train leaves	06:00	08:44 (c)	06:03	07:46 (c)	05:56	06:06
Last Train arrives	01:24	20:29 (c)	01:26	20:09 (c)	01:27	01:03
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:56	08:04
Last Train arrives	01:24	(b)	01:26	(b)	01:27	01:09

(a) Peak period service on this route is extended to Colma.
(b) Route not in service during identified time periods. Travel is accommodated on other routes with one transfer in downtown Oakland.
(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

BART complies with the Americans with Disabilities Act (ADA) requirement to provide paratransit service which is comparable and complementary to the BART system. Federal regulations define the ADA paratransit service area as a 0.75-mile radius around a BART station.

To provide effective paratransit service in its widely dispersed service area, BART has established a variety of partnerships with other transit operators. In the joint service area with AC Transit, BART and AC Transit jointly fund and administer the East Bay Paratransit Consortium. In other parts of the BART service area, BART has arranged to provide funding to MUNI, Contra Costa County Transit Authority (County Connections), Eastern Contra Cost Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT) and Livermore Amador Valley Transit Authority (LAVTA). These agencies provide paratransit service on behalf of BART at the same time as they provide for their own paratransit service obligation.

BART participates in a regional ADA eligibility process followed by the principal transit operators in the San Francisco Bay Area. Paratransit service is available to people who have been certified as being unable to access and ride BART because of their disability. Most of the paratransit service programs in which BART participates operate by reservation only. MUNI is the exception in that it also provides for same-day taxi service under a user subsidy program. In addition, BART, along with other transit agencies in the Bay Area, participates in efforts at coordinating regional travel by paratransit through the Partnership Transit Coordinating Committee and its Accessibility Committee.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-5, with station-to-station fares shown in Figure 1-6. The following presents information on BART fares for rail and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtown's and other local areas. As shown in Figure 1-6, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 can ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Starting in Fall 1998, students between the ages of 13 and 18 are able to purchase $33 high-value tickets for $25, a 25% discount through participating schools. The tickets also include a last-ride bonus. Students are limited to two tickets per month valid for weekday school-related travel. A review of ridership gain and program cost will be reported to the BART Board.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/MUNI FastPass allows unlimited use of San Francisco Municipal Railway services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART and other certain Bay Area transit systems serving BART rail stations.

The ADA limits the fare that can be charged for ADA paratransit service to twice the full adult fare for a comparable fixed route trip. Fares for paratransit service provided through the joint BART/AC Transit East Bay Paratransit Consortium (EBPC) are distance based and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. Paratransit travel within San Francisco is provided by taxi service at 10% of the meter rate, usually averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00 from MUNI. Paratransit fares in BART's other service areas range from $1.00 to $6.00 per trip.

Figure 1 - 5

BART FARE COMPONENTS AND TICKET PRICES

As of May 1999

TRIP LENGTH:	Up to 6 miles[5]	$1.10
	Between 6 and 14 miles [1]	$1.34 + 9.9¢/mile
	Over 14 miles	$2.13 + 5.9¢/mile
SURCHARGES:	Transbay	66¢
	San Mateo County [2]	76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time	±3.7¢/minute
RESULTING FARES:	Range [3]	$1.10 to $4.70
	Average fare (before discounts) [4]	$2.39
	Average fare paid (after discounts) [4]	$2.13
RAIL FARE	Children under 5	Free
DISCOUNTS & SPECIAL FARES:[5] (high-value tickets)	Children 5 through 12 (75% discount)	$4.00 ($16 value)
	Persons 65 and over (75% discount)	$4.00 ($16 value)
	Persons with a qualifying disability (75% discount)	$4.00 ($16 value)
	Students 13 through 18 (25% discount) [6]	$25.00 ($33 value)
	Regular adult (6.25% discount)	$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [7]	$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]	$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [9]	FastPass -- (within San Francisco, unlimited monthly use of BART & MUNI)	$35
ONE-WAY TRANSFERS TO: [10] (issued at rail stations)	County Connection	50¢ ($1.00 base fare)
	Union City Transit	25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [10] (issued at rail stations)	AC Transit: From BART	$1.00 ($1.25 base fare)
	To BART	$1.00 ($1.25 base fare)
	SF MUNI, within SF: From BART	$1.00 ($1.00 base fare)
	To BART	Free ($1.00 base fare)
	SF MUNI, Daly City Station: From BART	Free ($1.00 base fare)
	To BART	Free ($1.00 base fare)
ADA SERVICE:	East Bay Paratransit Consortium[11]	$2.25 to $6.75
	BART/MUNI Cost-Sharing Agreement[12]	80¢ to 90¢ approximately
	All other areas	$1.00 to $6.00 approximately

Figure 1 - 5

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.
2. The San Mateo County surcharge does not apply to Transbay trips.
3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980 and November 3, 1975.
4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco MUNI FastPass. The figures shown are third quarter FY99 actuals through March 28, 1999.
5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.
6. Students are limited to two tickets per month for weekday school-related travel only and tickets include a last ride bonus.
7. There is a three-hour limit on the excursion fare.
8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, MUNI, SamTrans, County Connection, Valley Transportation Authority, Union City Transit, Dumbarton Express and WestCAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.
9. BART began accepting the regular adult MUNI FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment and other outlets in San Francisco.
10. Except for the two-part $1.00 (round trip) MUNI transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer are equal to the base fare less the additional fare paid to the connecting transit system.
11. BART and AC Transit have formed the East Bay Paratransit Consortium, which provides service to eligible BART customers in service areas that overlap with AC Transit.
12. BART has executed a cost-sharing agreement with San Francisco, which permits eligible BART customers to use paratransit service provided by MUNI for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1 - 6

Chapter 2 Goals, Objectives and Standards

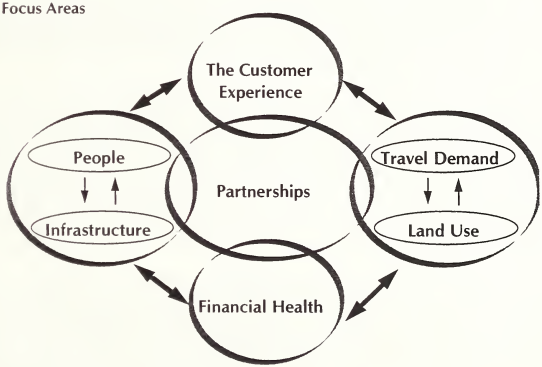
Throughout its history, BART's mission has been to deliver safe, reliable, customer-oriented transportation. Now, as we move into the next century, BART continues to be guided by those key descriptive words: safe, reliable, customer oriented. Evolution of BART has been greatly influenced by challenges presented on many fronts, including those relating to technology, fiscal requirements and political realities.

BART has continually set high standards for itself as embodied by the recently adopted 1999 Strategic Plan. Central to achieving prescribed standards is the importance the organization places on nurturing a talented and dedicated workforce, capable of maintaining the system while preparing to meet the challenges of the future. As such, the organization's effectiveness is directly related to its policies and procedures to promote positive change.

The evaluation of BART programs as presented in this chapter is structured around the policy framework of the new 1999 Strategic Plan, developed to guide current operations and the development of new services. BART's Strategic Plan focuses on seven areas of concern key to the future of BART (see Figure 2-1). Each of these focus areas is supported by a vision statement, defining BART's aspirations as it looks to the future, and one or more goals, regarding what BART wants to achieve in relation to specific objectives.

BART's Strategic Plan goals, presented in this chapter in bold shaded text areas, are comprehensive and address all major areas of service. The next step of the Strategic Plan is to develop an implementation plan. The discussion in this chapter, of current efforts undertaken by BART to achieve the goals, will aid in the development of the implementation plan. Future SRTP plans may be modified to reflect implementation of Strategic Plan programs.

Figure 2 - 1
Strategic Plan Focus Areas



Continually improve customer satisfaction by maintaining performance standards and providing quality customer service

BART Performance Standards address both the efficiency and effectiveness of the transit services provided. Figure 2-2, BART Performance Indicators, provides actual data for the third quarter of FY99, prior quarters and the fiscal year to date, for key areas as rated against specific, measurable and quantifiable standards. Some standards are changed each year to reflect new priorities established as part of the annual budget process. For example, the standard for mean time between service failures, a measure of car equipment reliability, was raised to 1,300 hours from 1,200 hours, in anticipation of increased reliability requirements of the BART-SFO Extension.

Through the third quarter of FY99, BART has been performing very well in most areas, particularly average weekday ridership and customer on time. BART's highest ever weekday ridership, excluding days following the 1989 Loma Prieta earthquake, was posted on March 17, at 301,000 trips. The improved customer on time rating reflected increased organizational emphasis on delay management. New, higher quality tickets have improved automatic fare collection (AFC) gate and vending equipment performance. Train on time has not quite reached its standard, mainly due to false occupancies on the track and a number of major incidents, including a refinery fire near the Richmond Station.

BART extends the commitment to monitoring performance and satisfaction to ADA paratransit services. These services are regularly measured against performance standards in many areas including on-time performance, complaints, productivity and safety. In addition, for three years BART has commissioned a Customer Satisfaction survey of the East Bay Paratransit Consortium, one of the larger of Bay Area paratransit systems. Statistics and performance measures are used by staff to improve performance and shared with the BART Board and with a variety of advisory groups made up of paratransit consumers.

BART Customer Satisfaction Survey

The most recent BART Customer Satisfaction Survey of 5,000 randomly selected customers was conducted in September 1998. Results indicate that BART is generally well regarded by its customers, with 86% saying that they would recommend BART to friends or guests. This high level of satisfaction spans all demographic groups, including customers of all ages, ethnicity, income levels, genders and disability status. In fact, 57% of those surveyed had a vehicle available that they could have used instead of BART. Actual train on-time performance is rated the single most important service attribute to all customers.

Overall, satisfaction levels have declined slightly since the previous survey in 1996, with the percentage of respondents very satisfied with BART declining from 38% to 31%. Service characteristics important to customers, such as escalators and elevators, AFC equipment, train cleanliness and the availability and responsiveness of personnel, also declined in customer ratings.

BART PERFORMANCE INDICATORS	3rd QUARTER, FY99			PRIOR QTR ACTUALS		3 QUARTERS, YEAR TO DATE		
	ACTUAL	STANDARD	STATUS	QUARTER	LAST YEAR	ACTUAL	STANDARD	STATUS
Average Ridership - Weekday	280,047	272,257	MET	275,126	267,740	276,880	270,692	MET
Customers on Time								
Peak	94.8%	94.0%	MET	93.8%	95.3%	94.2%	94.0%	MET
Daily	95.9%	94.0%	MET	95.5%	95.8%	95.8%	94.0%	MET
Trains on Time								
Peak	91.1%	N/A	N/A	88.9%	91.1%	89.9%	N/A	N/A
Daily	92.4%	95.0%	NOT MET	91.0%	92.3%	91.6%	95.0%	NOT MET
Peak Period Transbay Car Throughput								
AMPeak	99.8%	97.5%	MET	97.2%	99.0%	98.5%	97.5%	MET
PM Peak	99.8%	97.5%	MET	97.9%	99.8%	98.7%	97.5%	MET
Car Availability at 4 AM (0400)	556	523	MET	544	554	537	523	MET
Mean Time Between Failures	1,320	1,300	MET	1,411	1,261	1,333	1,300	MET
Elevators in Service								
Station	99.1%	97.0%	MET	98.4%	95.5%	98.4%	97.0%	MET
Garage	98.3%	97.0%	MET	97.3%	94.9%	97.7%	97.0%	MET
Escalators in Service								
Street	93.2%	95.0%	NOT MET	96.9%	83.8%	95.7%	95.0%	MET
Platform	97.6%	95.0%	MET	97.8%	94.3%	97.3%	95.0%	MET
Automatic Fare Collection								
Gates	94.7%	95.0%	NOT MET	91.6%	94.0%	92.8%	95.0%	NOT MET
Vendors	90.1%	90.0%	MET	86.1%	90.1%	87.9%	90.0%	NOT MET
Environment Outside Stations	4.7	4.8	NOT MET	4.7	4.7	4.7	4.8	NOT MET
Environment Inside Stations	5.6	5.1	MET	5.1	5.0	5.2	5.1	MET
Station Vandalism	5.5	5.7	NOT MET	5.8	5.7	5.7	5.7	NOT MET
BART Police Presence	12%	14%	NOT MET	12%	N/A	11%	14%	NOT MET
Station Service Personnel	91%	91%	MET	92%	87%	90%	91%	NOT MET
Train P.A. Announcements	82%	87%	NOT MET	82%	N/A	82%	87%	NOT MET
Train Vandalism	5.5	5.5	MET	5.4	N/A	5.5	5.5	NOT MET
Train Cleanliness	5.9	6.5	NOT MET	6.0	N/A	5.9	6.5	NOT MET
Customer Complaints								
Total Complaints	1,957	N/A	N/A	2,263	1,793	2,273	N/A	N/A
Complaints per 100,000 Passenger Trips	9.9	N/A	N/A	11.3	9.5	11.3	N/A	N/A
DBE Participation	10.5%	21.0%	NOT MET	21.2%	29.3%	15.9%	21.0%	NOT MET
Police								
Part 1 Crime	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crimes Against Persons	46	61	MET	31	51	43	61	MET
Trains	6	N/A	N/A	1	8	4	N/A	N/A
Parking Lots	10	N/A	N/A	14	18	15	N/A	N/A
Stations	30	N/A	N/A	16	25	24	N/A	N/A
Auto Theft	88	142	MET	91	131	109	142	MET
Auto Burglary	202	248	MET	203	254	210	248	MET
Safety								
Station Incidents/Million Patrons	6.7	11.4	MET	7.6	8.9	7.2	11.4	MET
Vehicle Incidents/Million Patrons	1.7	3.2	MET	1.6	1.7	2.1	3.2	MET
Lost Time Injuries/Illnesses/Million Hours	36.2	71.2	MET	14.7	35.3	28.0	71.2	MET
OSHA Recordable Injuries/Million Hours	77.0	92.3	MET	58.7	120.7	74.3	92.3	MET
Unscheduled Door Openings/Million Car Mile	0.3	0.4	MET	0.2	0.4	0.4	0.4	NOT MET
Rule Violations Summary/Million Car Miles	0.3	1.0	MET	0.6	0.8	0.4	1.0	MET

Figure 2 - 2

In response to the survey ratings, programs to improve performance were funded as part of the FY00 Preliminary Operating Budget. This includes over $2 million in additional funding for the Maintenance and Engineering Department for track wayside maintenance activities to improve on-time performance. Additional resources have also been allocated to improve AFC equipment reliability. The FY00 Preliminary Operating Budget also includes funding for further Customer and Performance Research to review current core measures such as on-time performance, escalator availability and AFC availability, to better understand how these measures compare with the customer's actual experience. Other programs to improve the BART customer experience receiving additional funding and positions include car interior and station cleanliness, car exterior brightening, ticket exchange programs and cash handling staff.

Customer Business Plan

A Customer Business Plan was developed in response to the Board and the staff's desire to raise the level of customer service awareness. The plan has three major priorities: sustain and increase the satisfaction of our riders, increase off-peak ridership and build public support for future BART initiatives. As noted in the previous section, BART customers are generally satisfied. However, any organization must look to increasing its opportunities to sustain and grow its customer base and support high levels of customer satisfaction. The Customer Business Plan supports and complements the Strategic Plan. The Customer Business Plan contains six goals:

- Increase the satisfaction of existing riders
- Increase the number of new riders during off-peak;
- Improve the public awareness and perception of BART service;
- Reinforce throughout the District that BART employees are our most important asset in the delivery of high quality customer service;
- Expand an ongoing measurement of customer service delivery, externally and internally;
- Sustain and continue to build a high level of confidence in the BART system.

The District is implementing the goals through a variety of activities and involvement of staff and various bargaining units is key to the development and on going implementation of the plan.

BART Website

The purpose of the BART website (http://www.bart.gov/) is to expand customer outreach and help the District meet strategic goals. The website is an important tool for the District in an extremely "wired" market: The San Francisco Bay Area has more Internet users per capita than any other media market in the nation with 75 percent of adults online. The BART website receives over 2.1 million hits and over 500,000 page views per month and helps achieve the BART vision in several key areas, including:

- **Interactive Trip Planner**
  The BART website adds value to the customer experience by providing an easy to use interactive trip planner that automatically generates information customers need to ride BART. This includes departure times, arrival times, transfer information, fares, bicycle accommodations and other station information.

- **Direct Customer Correspondence**
  The BART website provides a direct channel for customer dialogue. Twenty percent of the District's customer correspondence is in the form of e-mail generated by the BART website. Research indicates that customers are drawn to the medium because of its speed and relative ease of use.

- **Online Ticket Sales**
  Started in January 1999, BART's website ticket sales program improves the in-station customer experience by providing an attractive alternative to rush hour ticket machine lines. BART's online ticket sales program offers an easy, convenient and secure way for customers to purchase BART tickets and have them mailed directly to the home or office. In addition, the program is beginning to tap new revenue streams with high-volume ticket sales associated with conventions and group tours to the San Francisco Bay Area.
- **Accessibility**
  BART's website accommodates user agents and assistive devices commonly used by persons with disabilities. (For example, blind and low vision users utilize assistive devices that read web pages out loud.) BART's website also provides alternative "text-only" descriptions of graphics, charts, and other images. Information contained on the BART website is also offered in alternative accessible formats such as Braille, large print and/or audio formats. BART, one of the first major organizations in the country to implement such standards, has been recognized in Internet trade publications as a leader in website accessibility.

Elevator Accessibility

BART has implemented an elevator mitigation program to assist riders in accessing BART stations when elevators are out of service. This program provides system-wide audio and written announcements and telephone-recorded messages with the latest status of all station elevators. When a rider determines that an elevator is out of service at a station he or she intends to use, a reservation can be made to provide a paratransit van trip to or from the closest station with a working elevator. This service is provided at no cost to the rider and is available to all riders who would normally use an elevator to enter or exit the BART system.

Maximize regional transit access, convenience and ease of use through effective coordination among transit providers

Americans With Disabilities Act (ADA)

In addition to the provisions of ADA paratransit services, BART coordinates fixed-route accessibility with most local Bay Area transit agencies. The District's adopted ADA *Key Station Plan* and overall system accessibility program identifies strategies for implementing accessibility improvements that are at least consistent with ADA and State Title 24, and in many cases, exceeds those standards. The District coordinates accessibility improvements with local Bay Area transit agencies.

Senate Bill (SB) 1474

Senate Bill 1474 authorized the Metropolitan Transportation Commission (MTC) to advocate consolidation of certain functions to improve regional transit service efficiency, improvements in service coordination to reduce duplicative service and coordination of service across public transit boundaries.

One of the major successes in implementing this bill was the transition of BART Express Bus service to four local operators. This process required transition agreements between BART and County Connection, LAVTA, TriDelta and WestCat. The transition has resulted in expanded feeder bus services to new BART stations, reduced operating costs and increased use of existing public facilities and resources. BART continues to work with each operator and MTC reviews these services.

For FY00, MTC has identified coordination projects for each operator. BART staff will monitor progress and provide input on the following projects:

- SB 602, which requires operator to maintain fare and transfer revenue agreements with every connecting agency as a condition of receiving State Transportation Assistance (STA) funds;
- Coordinated transit trip planning system and regional transit database of service information;
- Commuter Check;
- Regional paratransit guidelines, ADA Eligibility Program and operating guidelines;
- Regional Emergency Response Plan.

Translink®

Also a SB 1474 project, Translink® is a ticket concept designed to reduce the number of fare instruments in the region and improve passenger convenience. BART, in partnership with AC Transit, Caltrain, Golden Gate Transit, Muni, Valley Transit Authority (VTA) and Vallejo Ferry, will be participating in the Translink® demonstration scheduled to begin in Fall 2000. When fully implemented, Translink® will allow patrons to use any of the Bay Area transit operators, including BART, with a single ticket. Translink® will also reduce transit agency revenue loss due to fare evasion and fraud by improving fare collection security.

Regional Transit Marketing

A Regional Marketing Plan, being developed by MTC in conjunction with transit operators, will further market SB 1474 programs and regional transit marketing activities. Current marketing activities include Back to Transit Week, an annual event promoting greater use of trains, buses and ferries in the Bay Area and sponsored by a committee of Bay Area transit agencies, including BART. Transit festivals held in Alameda, Contra Costa and San Francisco counties emphasize transit alternatives available and the benefits of using transit instead of driving.

Regional Transit Connection (RTC) Discount Card Program

BART is the lead agency for the RTC Discount Card Program. Under this program, twelve transit operators offer discounted fares to senior citizens and individuals with a qualifying disability. In 1998, major program changes were instituted to manage the program centrally and to reduce revenue loss. A central processor now verifies applicant information and issues ID cards. New computer hardware and database software were installed at each operator site, providing accurate customer and program management information. During the first year of the revised program, nearly 26,000 applications were received and 24,800 cards issued to approved applicants.

BART will be viewed by stakeholders as a credible, trustworthy steward of the system we manage and operate, focused on improving our value to the riders and the communities we serve

BART-SFO Extension Outreach

During ongoing construction of the extension to San Francisco International Airport, the community relations team needed ways to provide general project information, updated progress reports and construction notifications to city officials, business leaders and community members in the five cities impacted by the work. The BART website (http://www.bart.gov/), was the perfect vehicle to help meet these business goals and the BART-SFO Extension page is one of the most highly visited sections of the website.

System Renovation Outreach

The FY00 Preliminary Operating Budget includes funding to increase communications about the System Renovation Program and to make visible to the public the work to improve the system that is often done behind the scenes.

Office of Civil Rights Outreach

The Office of Civil Rights is continuously outreaching to minority and women business enterprises, to inform them of upcoming contracting and purchasing opportunities. Outreach methods include vendor fairs, community forums and the BART website (http://www.bart.gov/). Provided is information about disadvantaged business enterprise certification, procedures and upcoming contracting opportunities.

BART will encourage and consider public input as integral to sound, development and decision-making and make deliberate, disciplined decisions in the best interest of the people we serve

BART encourages public input in a variety of forums, including public hearings and public comment meetings, including a meeting held to hear public comment on the draft SRTP, Board hosted 'open forums' and Customer Service events in stations.

BART Accessibility Task Force

The BART Accessibility Task Force is comprised of representatives from the elderly and disability communities. The Task Force meets regularly with BART staff for the purpose of identifying projects which may further enhance system accessibility and offering specific suggestions concerning the implementation of improvements to the system.

The Board of Directors has supported a proposal to restructure the Task Force in order to provide broader representation and create more accountability. The District is developing a new set of bylaws and procedures that would establish an eighteen-member task force appointed by the Board. These changes will occur in FY00.

Service Review Advisory Committee

To ensure community and rider involvement in the ADA paratransit program, BART and AC Transit have established the Service Review Advisory Committee. The Committee meets monthly and advises the East Bay Paratransit Consortium in the areas of service delivery, performance, planning and customer issues. The Committee has sixteen members representing various communities and agencies in the Consortium service area.

BART Bicycle Advisory Task Force

There are six appointed members of the BART Bicycle Advisory Task Force, two people from each of the counties represented by BART: Alameda, Contra Costa and San Francisco. Each county's Bicycle Advisory Committee appoints these members. The Task Force is charged with reviewing and working with BART to improve bicycle access to and on BART.

Specifically, the Bicycle Task Force reviews proposed bicycle policies, offers suggestions for improvements, and discusses problems and complaints regarding bicycles on BART. The Task Force also presents recommendations to the Board and acts as a liaison between BART and bicyclists. Recent Bicycle Task Force projects include:

- upgrading and adding bicycle parking throughout the BART system;
- improving access for bikes on BART trains;
- assisting BART in getting the word out about new bicycle programs;
- improving education and promotion of all bicycle policies;
- assisting in the organization and promotion of workshops aimed at giving bicyclists a forum to discuss any bicycle-related issue with the BART Board of Directors;
- reviewing and ultimately discontinuing the bicycle permit program in favor of easier access for bicyclists.

Residents of the Bay Area will value and take pride in BART as an integral part of their communities

Station Area Outreach

While the District historically has involved the communities around BART stations in the review of facilities improvements, the Board of Directors supports a new process to expand station area communities' involvement early on in the review process. Within District staff, a station area cross-functional team has been established to develop a more consistent program of outreach for each station. The primary focus of this new process is to increase the level of partnership between the community and the District. One of the first tasks of the station area team is to develop a station-by-station resource guide. The District will also continue to host community forums and focus groups as another method of outreach to the community.

Community Relations

Covering the three-county BART District, the purpose of the Community Relations function is to build relationships with identified community and special interest groups in order to communicate the District's policies, programs and projects. Community Relations is also required to provide feedback to the District from parties outside of BART in order to assess public opinion and transit needs.

Community Relations staff attend key community meetings, and where possible, participate in community events. Community Relations is responsible for making presentations and providing information to a myriad of persons, including chambers, trade associations, transit organizations and other public agencies and government bodies. In addition, Community Relations is responsible for acting as a community liaison when District crews' activities will impact on neighboring residents or businesses. Community Relations also conducts tours for schools, libraries and visiting officials.

Key elected officials, opinion leaders and decision makers will understand and actively support transit needs and initiatives

Congestion Management Agencies

The California Legislature created a requirement in 1989 for all urban counties to establish congestion management agencies (CMAs) and develop congestion management programs as an eligibility condition for state transportation funding. In addition to developing the congestion management program, each CMA is also responsible for developing a 20-year transportation plan for its county. One of the goals of the CMAs is to make it easier for local governments to tackle the increasingly complex problems of mobility, growth and traffic congestion. The CMAs make recommendations to MTC regarding programming of state and federal transportation funds and determine allocation of local funds. Typically, BART's major capital projects are either included in or consistent with the county's 20-year transportation plan before BART can receive funding through the appropriate CMA.

Government Relations

The purpose of the Government Relations function is to administer and oversee the advocacy efforts of the District at the federal, state and local government levels. Government Relations develops and maintains good working relationships with elected officials at all levels, advances legislative policies and objectives of the Board, provides input and support to regional legislative efforts, and maintains awareness and support for the role BART plays in the regional transit system. Suggestions for desired legislation are solicited from various organizational units within the District. Once identified and analyzed, Government Relations will locate a bill author, develop legislative language and lobby for the bill's passage. Government Relations also monitors legislation at the federal, state and local levels which may have an impact on District business and testifies in the appropriate forums in accordance with Board direction.

In addition, working with contracted lobbyists, Government Relations participates in numerous public hearings, community meetings and other forums sponsored by elected officials. Government Relations also provides all correspondence, reports and speaking materials needed for legislative or elected official purposes.

Work to understand changing transit demand patterns and be prepared to respond and work proactively to influence travel demand trends in the region that support transit ridership

BART monitors daily ridership for individual stations, market areas and systemwide. This data is used to establish performance standards and projections for future budgets. Frequently, this data is used to advocate infrastructure investments best supporting transit ridership and to identify new potential opportunities to serve additional riders.

BART continually seeks to identify incentives to promote increased transit use, as exemplified in the Commuter Check program. Established by MTC as a SB 1474 project, this program allows Bay Area employers to purchase and distribute transit vouchers to their employees as a tax-free benefit, or for employees to purchase the vouchers with pre-tax wages. The employee can use voucher to purchase transit tickets or qualified vanpool fares.

Optimize the use of existing capacity

Marketing activities at BART focus on building offpeak ridership, ridership to specific destinations through joint programs with the public and private sector and ridership by specific communities. Such activities include media promotions targeting holiday shoppers and theatre and sporting event patrons. The FY00 Preliminary Operating Budget also includes funding for a latent demand study, to survey potential BART users who are not currently riding, to determine how they could be encouraged to use BART.

Based upon customer feedback, BART modified service effective February 1999. Prior to February, full-length trains operated every 30 minutes in the early weekday morning hours on the Richmond/Fremont and Pittsburg-Bay Point/Colma routes. The service change implemented shorter, trains running every 15 minutes on the Pittsburg-Bay Point/Colma route and every 20 minutes on the Richmond/Fremont route. The service frequency is higher, providing better service to passengers, but the car hours, a key driver of operating expense, remain essentially unchanged. Additionally, certain overly crowded weekend trains were lengthened to provide more seats to passengers.

Encourage and facilitate improved access to and from stations by all modes

Access Planning Activities

The Customer Access Department completed an Access Strategy Plan for all stations and presented results to the Board in March 1996. The principle product of that plan is a computerized database, which contains information for each station, each line segment, each line and the total system. The database identifies potential access improvements for all stations and contains analysis tools which allow access improvement concepts to be quickly tested for cost effectiveness at any given station.

In June 1998, the database became available on the District's local area network for BART staff use. This provides all departments with current access information about the BART system and can greatly assist staff involved in station operations, maintenance, procurement and capital funding. In

addition, the database will be a useful resource for implementation of the District's Strategic Plan and will be integrated into the station resource guide. The database will be updated annually to ensure that it is current and accurate.

Bikes on BART

In October 1996, the Board modified the policies governing bikes on BART by eliminating the need for bicyclists to obtain a permit and allowing bicyclists to ride in the rear end of any car except the lead car. As with all significant policy changes, BART extensively monitored the effectiveness and the acceptability of the new policy by all types of customers. At the end of the six-month pilot project, the policy change was deemed a success. Many of those surveyed felt BART was more "customer friendly" with the removal of the permit requirement. One in five customers who drive alone to BART stated it was possible to bicycle to the station. There was room in the non-peak for additional riders with bikes.

In November 1997, the Board hosted a Bicycle Workshop to gain feedback on the previous bicycle policies and, at the same time, directed staff to complete a thorough review of BART's bicycle policies. In March 1998, the Board reviewed and adopted the revised bicycle policies. The new policies, effective July 1, 1998, identified the train times on all BART schedules that could accommodate bicycles, based on load factors. This change in policy allowed bicycles at all times on Fremont-Richmond trains as well as on trains traveling toward the end of lines. Policy enforcement was transferred from the station agents to BART Police, train operators and other customers. The new pilot bicycle policies were evaluated and adopted permanently by the Board in March 1999. The Board made the policies even more "customer friendly" by removing the rule that bicyclists must board the rear door of a vehicle, allowing bicyclists to board any car but the first car of a train. The Board also directed staff to complete a market study evaluating the accommodation of bikes and luggage on BART trains.

Bicycle Parking at BART

In March 1998, the Board adopted a goal to double the number of bicyclists coming to BART by 2001, from 2% to 4% of total ridership. Since bikes are not permitted on crowded commute period trains and even non-peak trains are becoming more crowded with bikes, the more effective way to increase ridership with minimum impact is to provide quality safe and secure bicycle parking at stations. BART is conducting a one-year demonstration of various types of bicycle parking. Facilities not proven to be successful are being retrofitted, relocated and improved, based on new information gained from this and other demonstration studies.

BART Station Car Program

Station cars are automobiles that are used by several BART riders per day to give them access and egress to and from stations. BART has been developing the station car concept for the past seven years, initially focusing on electric vehicle technology. BART conducted a 30-month program using 40 electric vehicles imported from the Personal Independent Vehicle Company (PIVCO) of Norway. A major conclusion of the programs was that the sharing of cars was as environmentally important as the vehicle technology.

"CarLink," a new car sharing/station car program, was launched in February 1999 at BART's Dublin/Pleasanton Station using twelve compressed natural gas cars from Honda. The station car concept allows one BART customer to drive the car from home to the BART station. Another BART customer then drives the car from the station to their work site. At the work site, the car is then used

as a corporate pool car. Eventually, BART will have station cars services provided by rental car companies, using gasoline-powered cars. With revenue coming in from each of the several daily users, the station car concept has the potential to become a major new opportunity for the rental car industry, as well as a mode for enhanced access to transit.

Feeder Bus and Shuttle Service

BART coordinates feeder bus and shuttle services to the BART stations with 18 local bus operators and approximately 30 shuttle providers. BART's primary goal for feeder service is to coordinate schedules and facilities improvements to provide smooth transfers from bus to BART and BART to bus. Most providers have transfer agreements with BART that provides for discounts when using both BART and bus. Feeder services provide approximately 78,000 trips per day to and from BART stations, or, approximately 30% of BART ridership. The most significant level of coordinated bus service is in the San Francisco MUNI and AC Transit services areas. BART's FY00 Capital Improvement Program details ongoing and planned improvements to bus access and bus-to-BART connections at eight BART stations.

AirBART Shuttle Service

BART and the Port of Oakland jointly provide AirBART bus shuttle service between the Coliseum Station and the Oakland International Airport. This shuttle operates seven days per week, at ten-minute headway and approximately ten-minute travel time. Service is provided using new 40-foot, low floor buses with the capacity to transport up to 35 passengers and luggage per trip. The low floor makes the equipment easily accessible to persons with disabilities. BART and the Port of Oakland jointly market this service and are evaluating opportunities to address the needs of employees who work at or near the airport.

Station Parking

As of April 1999, 29 of BART's 39 stations had parking facilities, totaling 41,666 spaces. Approximately 5,300 spaces will be added with the opening of the South San Francisco, San Bruno and Millbrae stations in FY02.

Pathfinder Program

The BART Pathfinder Program is a comprehensive sign and mapping program to enable BART customers to easily find their way to BART stations and out to local destinations. The Pathfinder Program is geared specifically to enhance pedestrian, bicycle and vehicle circulation between BART stations and the surrounding community. A grant awarded to BART in 1997 began the program with a pilot project at the Pittsburg/Bay Point Station. The project has now been extended to Fremont and Union City Stations as well as parallel local pathfinder efforts at the Plaza and Del Norte BART Stations in El Cerrito and the Civic Center BART Station in San Francisco. Consistent with the FY00 CIP, it is anticipated that the Pathfinder Program will be expanded to include all stations systemwide.

Although the projects vary to address to unique local area surrounding each BART Station, all the Pathfinder Programs consist of four separate but integrated components:

- a detailed local station map which includes nearby destinations and paths for pedestrians, bicyclists, transit users and vehicle drivers;
- a customer brochure and map indicating local destinations around the BART Station as well as the transit connections, pathways and bike lanes which provide a direct and safe route to those local destinations;

- directional signage orienting customers to the local destinations identified on the brochures;
- larger BART pathfinder signs on freeways and roads directing visitors and residents to BART.

Work to close gaps in regional rail services between major populations and employment centers/corridors

San Francisco International Airport Extension

Extending south from Colma Station down the San Francisco Peninsula, BART is adding 8.7 miles of new track and four new stations, including a station located inside the San Francisco International Airport. Through a direct, cross-platform transfer with CalTrain at the Millbrae Station, this extension will connect communities further south on the Peninsula with those in the East Bay and San Francisco. The project broke ground in 1997 and is scheduled for completion in FY02.

Other Extension Projects

- **Warm Springs/Santa Clara Phase 1 Extension**
  This extension to Santa Clara County is the only remaining Phase I extension and is identified in BART's CIP under the Track One capital program. No further design or engineering progress has been made on this extension since 1993 due to a funding shortfall. The proposed reauthorization of the Alameda County Transportation Sales Tax (Measure B) in 1998 included $165.5 million for a BART/Rail Extension to Warm Springs, which would significantly reduce this funding shortfall. While the June 1998 ballot was not successful, Alameda County is considering putting the reauthorization of Measure B on the ballot in 2000.

- **Oakland Airport Connector**
  In conjunction with the Port of Oakland, BART is seeking funds to construct a 3.2-mile, fully automated, elevated train system between the Coliseum Station and the Oakland International Airport. The current AirBART bus system carries 400,000 passengers and airport workers. However, this system already operates at 90% capacity, and will become less effective as travel demand well as road congestion in this corridor increases. The Connector, a solution favored by the Port of Oakland and the Coliseum community, is projected to carry 3.3 million people per year by 2010 and transport passengers five times faster than ground-based transit. It will do so with increased reliability and convenience, since it will more than likely operate on an elevated guideway for most of the trip.

Capitol Corridor

Through the enactment of The Intercity Passenger Rail Act of 1996, BART, along with five other transportation agencies in Northern California, formed the Capitol Corridor Joint Powers Authority (CCJPA) and assumed management of the Capitol Corridor (Colfax-Sacramento-Oakland-San Francisco-San Jose) intercity rail service on July 1, 1998. BART, managing agency for the CCJPA, oversees the contracts for the train operations and dedicated feeder bus routes and coordinates the interface of the service with 12 public transit bus systems, at least 16 intercity bus routes and five other rail systems. Goals of the CCJPA include working with local and regional transportation providers to ensure seamless, multi-modal connections and providing more service for the existing level of funding by investing cost savings to improve and add service in the corridor. The Richmond Station connects Capital Corridor trains to the BART system. An objective for the future of the CCJPA is to extend the reach of the Capital Corridor rail service with dedicated feeder bus service to San Francisco, Reno, Nevada City, South Lake Tahoe, Santa Cruz, Monterey/Carmel and Santa Barbara.

In partnership with communities we serve, BART's properties will be used in ways that first maximize transit ridership and then balance transit oriented development goals with community desires

Partnership Opportunities

The District is custodian of a large-scale public investment, including many real estate assets. By encouraging high quality development on and near BART-owned properties, the District can promote the use of public transit and generate new revenues while creating attractive investment opportunities for the private sector and facilitating local economic development goals. BART station property development projects focus on private development promoting the use of existing regional infrastructure. The program is directed towards conformance with market conditions and pursues projects in areas where there is local support.

In concert with the private sector and local governments, joint development projects have been completed at the Castro Valley and Hayward BART Stations. The Castro Valley project consists of 96 residential units, restoration of the historic Strobridge House and a BART Zone Command Police Facility, the latter built and occupied at no cost to BART. The Hayward project consists of a series of property exchanges which have enabled the City of Hayward to construct a new City Hall, create a pedestrian plaza connecting the downtown to the BART station and has enabled the private sector to construct Atherton Place, an 80-unit housing development.

Board authorization has also been secured to construct the Fruitvale Transit Village with the Fruitvale Development Corporation, a subsidiary of the Spanish Speaking Unity Council. The Transit Village is a $35 million project consisting of La Clinica de la Raza, a Senior Center, the Cesar Chavez branch of the Oakland Public Library, a child care facility, multi-family residential units, office space, a pedestrian plaza and retail on either side of the plaza. Construction is scheduled to begin in mid-1999 and be completed by late 2000.

Board authorization has also been secured to enter exclusive negotiations with local jurisdictions and the private sector for a number of projects, including:

- Richmond BART Station - Mixed-use project consisting of for-sale housing, retail, improved pedestrian access and a cultural arts facility;
- El Cerrito del Norte BART Station - Mixed-use project consisting of market-rate rental housing, retail and a BART Zone Command Police Facility;
- Ashby BART Station - Ed Roberts Campus, a mixed-use project containing office space for nine organizations serving people with disabilities, as well as retail;
- Pleasant Hill BART Station - Mixed-use project, currently undergoing additional planning activity with the community; and
- West Dublin/Pleasanton BART Station - Mixed-use private sector projects and a new BART station.

A Special Entrance Agreement is also being negotiated with Millennium Partners to enable the Yerba Buena Gardens complex to directly connect to the Powell Street BART Station. In addition, a recently completed community planning process has resulted in capital funding from MTC for station area improvements at the 16th Street/Mission BART Station, with the San Francisco Transportation

Authority and Mission Housing Development Corporation taking lead roles in implementing the improvements.

In partnership with communities we serve, promote transit ridership and enhance the quality of life by encouraging and supporting transit-oriented development within walking distance of BART stations

Station Area Planning

The development of transit-oriented housing, jobs, retail and other services near BART stations has many potential benefits both to BART and the communities that desire such development. Medium- and high-density housing constructed adjacent to BART stations not only is in high market demand, but has a positive impact on overall ridership. Similarly, the creation of jobs adjacent to BART stations increases ridership. When located by suburban stations, these jobs attract reverse-commute riders, who occupy otherwise underutilized BART trains. The development of jobs near BART also makes more efficient use of existing rail infrastructure, reducing the demand for new roads. In addition, the provision of transit-oriented retail and services, such as daycare, at BART stations provides increased convenience for BART customers, thus attracting new riders. This convenience has become especially important as the number of single-parent families and dual-earner households rises and an increasing number of commuters find that they have to run errands on their way to and from work. The development of transit-oriented retail and services also has the potential to increase off-peak ridership on the BART system, thereby improving BART's operating efficiency and financial performance.

A new Station Area Planning Division, within the Planning Department, has been created in the FY00 Preliminary Operating Budget. This new division will implement a number of strategies to work in partnership with the communities BART serves to maximize ridership and plan for joint and transit oriented development in and around BART stations. This includes working with local jurisdictions to prepare transit oriented development (TOD) guidelines and plans for BART station areas and reviewing the CIP priorities in the context of TOD guidelines and plans. Station Area Planning will also work to improve communication between BART and adjacent communities regarding BART station land use issues and will create and maintain a TOD information resource for use by BART staff, local officials, developers and the public, including information on funding opportunities, planning and construction.

BART is actively pursuing funding for station area development. MTC's Transportation for Livable Communities (TLC) Planning Program provides funding for local areas to plan community-oriented transportation projects that can then compete for capital funding at the regional level. BART has submitted several station projects for inclusion in this program, including the 16th Street and 24th Street BART stations. BART staff have been working with community partners to improve safety and vitality in the vicinity of these stations. In 1998, MTC awarded TLC planning grants for preparation of Community Design Plans for each of the stations.

A number of station areas are currently undergoing community planning efforts in preparation of development, including:

- Pittsburg/Bay Point - a Specific Plan and Draft Environmental Impact Report are being prepared;
- Concord - capital funding has been secured from MTC to construct pedestrian access improvements between the City of Concord and BART and between the proposed JFK University Campus and BART;

- MacArthur - Jones Lang LaSalle has submitted a proposal to expand a medical facility over the BART parking lot; the Community Planning Committee is reviewing the proposal;
- West Oakland - Collaboration to begin a planning process between BART, the Oakland Housing Authority, the City and community representatives;
- El Cerrito Plaza - City of El Cerrito recently approved renovation of the El Cerrito Plaza Shopping Center which has renewed private sector interest in the adjacent BART station;
- Coliseum - Collaborative effort between BART, the City of Oakland and numerous other stakeholders to conduct planning study for station area;
- San Leandro - Collaborative effort with the City to complete station area study (Phase 1 conducted by the City; Phase 2 to be funded by the City, BART and MTC);
- Bay Fair - Collaborative effort with the City of San Leandro and Alameda County to conduct access study to better connect shopping mall and station;
- Union City - Study report of land use options and access improvements completed under an MOU between the City, BART and PG&E is under review by the City;
- 24th Street Mission - A community design plan is being prepared with the Mission Economic Development Association managing the study; and
- Balboa Park - A station area plan is being prepared in concert with the San Francisco Planning Department, San Francisco Transportation Authority, MUNI and other public agencies. Federal TCSP funds have just been secured to assist in the effort.

Create a welcoming and supportive working environment for all employees

BART provides a number of programs to enrich employees' lives. BART sponsors 'Take Our Daughters To Work' and 'Take Our Sons To Work' programs, two annual events promoting career development for children of District employees, as well as children in the BART community. Every summer BART offers a youth employment and training opportunity, offering participants a chance to experience the world of work, as well as perform work benefiting the transit services provided by BART.

BART also stresses a healthy lifestyle. Fitness programs promote physical fitness, stress reduction, healthy dietary patterns and provide health club membership reimbursement for non-represented and Police employees. The Employee Assistance Program provides discreet personal and family counseling to employees experiencing emotional problems, legal or financial burdens, relationship issues, or other problems.

It is the District's policy to have a drug and alcohol free workplace. The principles guiding this are education, deterrence, enforcement and treatment. BART employees are occasionally exposed to threats of violence and physical or verbal assaults. Accordingly, BART has a 'Violence in the Workplace Prevention Program.' Employees are trained to recognize the causes and types of violence, warning signs and what to do in case of violence. The Program also includes stress management and conflict resolution techniques.

Have an organizational culture that respects, values and empowers employees and puts customers first, seek to improve working relations within BART and between BART and the people and communities served

BART encourages its employees to get involved with local communities, including food, toy and clothing drives around holidays and visits and presentations to local community groups to assist their clients with job skills.

Employee Safety

A pilot Injury Prevention Program was implemented in FY99 at the Hayward Shop. Conducted by medical professionals, the program focused on fitness and safe work practices. A significant reduction in injuries at Hayward Shop since the program began has been noted. The System Safety Department has implemented an ergonomics safety program involving workstation reviews, recommendation of ergonomic equipment and employee education. The FY00 Preliminary Operating Budget includes funding for the Injury Prevention Program to build upon the ergonomics program and target District worksites with high incidences of on the job injuries.

Service Equity

The Title VI mandate of the FTA requires that federally assisted benefits and services be made available without regard to race, color, or national origin. It is a requirement that a Compliance Report be completed every three years to assure that services are being equitably distributed. BART's most recent report was reviewed and approved by FTA as of October 1998. Approval of BART's Title VI Program expires in 2001.

Attract, train, retain and provide job enrichment and career growth to a dedicated and competent workforce

BART dedicates substantial resources to reach this goal, starting with orientation programs for newly hired employees. This is continued with career development training in career planning, effective interviewing and effective writing, provided on a quarterly basis. The Shadow Program allows participants to 'shadow' a target job for one week. New supervisors are given a weeklong training course to assist in the transition to a supervisory role and provide a broad-based education in how to be a leader.

Frequently requested by staff is the Myers-Briggs Temperament Workshop, an instrument for understanding normal personality differences. The Educational Assistance Program provides tuition reimbursement of up to $1,000 per year for BART employees taking credited job-related training or course work on their own time. The Employee Suggestion Program provides monetary awards for tangible and intangible suggestions that save the District time or money.

Online Job Applications

With the purpose of helping to attracting a dedicated and competent workforce to lead BART into the new millennium, the BART website (http://www.bart.gov/) actively markets the District's employment opportunities to potential new hires. The BART website not only lists job opportunities and detailed job descriptions, it provides online job application forms that are sent directly to Human Resources for processing. The online application program generates approximately 200 applications a week for the District.

Equal Employment Opportunity (EEO) Program

To maintain a community wide image that values and includes the diversity of the communities within the service area and to meet federal requirements, BART implements an EEO program to assure equal employment opportunity in all personnel transactions based on job related requirements that are consistent with employment laws.

Diversity and EEO Training

The make-up of BART's workforce is rapidly changing. To keep pace with this change and the impact of an increasingly diverse workforce, training and education programs are provided to all employees to encourage an understanding and appreciation for differences. In addition, management staff receives training on hiring, managing a diverse workforce and handling employee concerns.

Complaint Counseling, Handling and Investigations

To prevent, identify or stop practices that may discourage attracting a diverse and talented applicant pool and to retain a multifaceted workforce, a number of options are in place to address employee concerns that arise. This includes an opportunity to review matters informally within or outside of the employing department, or filing a grievance with the union, the Office of Civil Rights, or with an outside enforcement agency.

BART Leads

In pursuit of the District's commitment to organizational learning and development, this advanced leadership program was developed and first implemented with the Operations Department in FY98. The four and one-half day course, BART Leads I, was designed to develop critical "core" competencies in the areas of leadership, strategic planning, process/systems performance improvement, high performance teams, business ethics and problem/decision analysis.

In FY99, the need for a follow-up program became evident based on the evaluation data collected from BART Leads I. This next level of training, BART Leads II, takes the theory into the work place. At each session, employees assemble teams to apply their skills to real District projects and processes. Each team is assigned a facilitator from the training department to help set guidelines for meetings and a management-level advisor to remove barriers impeding the team goals. After approximately three months, the teams are brought back to evaluate their work and their ability to function as a team. BART Leads has become the model by which BART is setting norms of behavior that promote trust, openness and a common sense of purpose.

Retirement Programs

The District is anticipating an increasing number of retirees as those first hired 20 to 30 years ago reach retirement age. In the next seven years, over 800 employees will fit the retirement profile of 58 years of age with over 15 years of service. Coupled with a stable economy, low inflation and high stock market returns, retirements could grow to 125 per year, up from the current 80 per year. An increase of this size will require a different approach to handle retirement activity. BART is investigating trends and options.

BART offers its employees a deferred compensation plan, allowing them to defer a portion of their salary until future years, when it will be available upon retirement, termination, or other covered events. Also available to all District employees, with the exception of sworn police officers, is the Money Purchase Pension Plan. In 1981, District employees elected to establish this supplemental retirement program in lieu of the Federal Social Security System.

Technology in Operations Training & Development

The continued expansion of the District coupled with the anticipated increase in retirees equates to an expected increase in the number of new employees requiring technical training. In addition, due to technological changes and advances in District equipment, training of existing employees requires longer sessions. As a proactive approach to minimize the cost of these issues and ensure all employees have the training necessary to perform their job effectively, Operations Training has been developing Technology Based Training (TBT) in all applicable subject areas. While TBT can be a high front-end investment, it has been proven to increase retention rates and allows for a vast amount of flexibility. In FY99 BART signed a Memorandum of Agreement with Lawrence Livermore Laboratories and Chabot - Los Positas College to develop simulation technology for the District and is currently searching for funding to make this ultimate training tool a reality.

Annual Rodeo

BART's annual Rodeo, held this April at the Hayward Yard, provides train operators, maintenance staff and other BART employees a chance to compete and showcase their skills in eight categories of transit events. Winners in the maintenance and train operator events will represent BART at the American Public Transit Association (APTA) International Rodeo, to be held this year in Toronto. BART's Maintainers Team placed first in the 1997 and 1998 APTA International Rodeos.

Make annual investments in maintenance and repair of physical infrastructure sufficient to support safety, cleanliness, reliability, train performance and customer friendliness

BART's Performance Indicators measure service delivery, reliability and the cleanliness of BART's physical plant and support systems. The Operations Department reports performance monthly in the Performance Indicator charts and quarterly presentations to the Board (Figure 2-2). This continuous monitoring allows the identification of areas requiring new or enhanced maintenance efforts, considered when the annual operating budget is developed. Areas that are falling short of the standard are sometimes funded on a short-term or ongoing basis above and beyond routine operating expenses. For example, additional funding in the Preliminary FY00 Operating Budget for AFC maintenance and station and car cleanliness programs is intended to improve performance in the related indicator areas.

Meet customer demands and assure the long term viability of BART by continuously re-investing in our aging infrastructure so as to maintain functional value

FY00 Capital Improvement Program

The draft FY00 Capital Improvement Program (CIP) details each of BART's five major capital programs: Systemwide Renovation, Extensions, Seismic Retrofit, Service Improvements and Research, Development, & Demonstration. Updated annually, the CIP outlines projects in the program areas currently underway or planned through FY10. See the draft FY00 CIP for more details.

Telecommunications Revenue

There is significant interest by telecommunications companies to have fiber optic cable installed within BART's extensive right of way (ROW). To take advantage of this interest, BART has formed a public/private relationship with MFS Network Technologies (MFSNT) of Omaha, Nebraska. Under a License Agreement with MFSNT, BART provides its ROW for telecommunications use and MFSNT provides its marketing capabilities and private funding for development of the commercial fiber optic improvements. Third party licenses with telecommunication companies for use of fiber optic cable within BART's ROW are prepared and negotiated by MFSNT. Annual revenue generated by these third party license agreements is shared between BART and MFSNT with 91% of gross revenue to BART and 9% to MFSNT.

A portion of BART's ROW exists within Caltrans ROW. In exchange for permitting BART to generate revenue within the shared ROW, BART and Caltrans have executed an Air Space Lease agreement which provides Caltrans fiber optic capacity for their statewide Traffic Operations System portion located within the Bay Area.

The presence of a fiber-optic transmission network creates a valuable asset within the Bay Area, in turn creating opportunities for the formation of strategic alliances with other related companies and educational institutions. These alliances are being pursued to promote the development and

application of high speed data transmission hardware and software for both residential and business areas.

Insure that infrastructure and maintenance of capacity supports the planned level of service and provide the infrastructure flexibility to support the planned level of service

Advanced Technology

BART's Advanced Automatic Train Control (AATC), a radio-based train control system now under development, is expected to allow headways to be reduced to two minutes, with a peak hour transbay capability of 30 trains per hour. BART is developing a pilot system in conjunction with Harmon Industries, a Missouri based train-control equipment supplier. In preparation for the start of field testing, extensive radio-frequency propagation data collection has been completed and field hardware has been installed at the Hayward Test Track, BART mainline track and on test vehicles. Software modifications have been made to vehicle Automatic Train Control onboard controller in preparation for integration with the AATC equipment. Laboratory system integration testing has begun at Harmon facilities. Implementation of AATC from Bay Fair Station to Daly City Station, the most heavily traveled portion of the system, is set for FY02.

BART's Research & Development Division continues to study the application of superconducting materials and alternative methods of fare collection and is also exploring other applications of the communication and control technology developed for the AATC system.

Remain a transit service that is competitive in terms of value

Strategies developed in the Strategic Plan to achieve this goal include: continue to pursue productivity improvements in all functional areas; make targeted, cost effective service adjustments to improve customer satisfaction; emphasize capital reinvestment programs that reduce operating costs; and seek out new technology advances that will reduce operating costs and increase customer satisfaction.

Maintain and improve the stability of our financial base

Chapter 4 of the SRTP, Fiscal Year Forecast and Financial Plan, discusses the FY00 Operating Budget and the accompanying Financial Plan through FY10. Projections of future operating ratios, a measure of earned revenue to expense, provide a picture of the District's financial sustainability.

BART's sound fiscal management results in high bond ratings, as exemplified in the AA bond rating during the $349 million March 1998 Sales Tax Revenue Bond Sale. A solid sales tax base, positive ridership growth and overall stability of the District's operations and financial plans result in excellent ratings.

Work with regional transit partners to advocate for funding needed first to sustain existing transit services and infrastructure reinvestment and then to pursue prudent expansion

MTC prepares a 20-year Regional Transportation Plan (RTP) every two years. Each transit operator, including BART, provides projected transportation investment requirements. The RTP provides an opportunity to region-wide coordination of operating expectations and capital projects within the limited amount of financial assistance projected to be available.

Financial choices to be guided by prudent fiscal policies and reliable, useful revenue and expense forecasts and plans

BART has developed a reputation for sound business decisions and prudent fiscal management. New expenses are not added to a fiscal year preliminary budget until passing a stringent competitive review by senior management. The final fiscal year budget is reviewed, amended as necessary, and ultimately approved by the Board of Directors.

The FY00 Preliminary Operating Budget provides funding for the development of a 30-year for capital investment model. Output of this integrated investment model will include specific strategies, investment programs and projects needing to be implemented over the next 30 years. Tiered increments of investment will integrate infrastructure renewal, capacity expansion and extensions. The District has already completed a review of long-term investment strategies and practices successfully used by other transit agencies and similar private sector companies.

MTC provides forecasts of state, federal and regional revenues under its programming and allocation jurisdiction. MTC also provides an estimate of the Bay Area consumer price index (CPI),

developed by an outside forecasting service. These forecasts for Sales Tax, Transportation Development Act funds (TDA), State Transportation Assistance (STA) and CPI are utilized in the SRTP's ten-year financial plan, presented in Chapter 4 of this SRTP, Fiscal Year Forecast and Financial Plan.

CHAPTER 3 SERVICE AND PROGRAM EVALUATION

BART has always endeavored to provide first-class service to its passengers. As the system ages and expands, excellent service is more important than ever. Key to meeting this challenge is reasonable and realistic planning and development of future service requirements.

BART's ridership forecast is the main driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan (SRTP) period is presented. This is followed by the Rail Service Plan, which includes a description of the service developed to accommodate core system and extensions ridership growth. The last section of this chapter describes BART plans for ADA paratransit service.

FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the San Francisco Airport Extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '98 Update*, and the Metropolitan Transportation Commission's (MTC) travel demand model. The Ridership Forecasting Model uses demographic projections for 1995 (as a base year), 2000, 2005 and 2010 for each of MTC's 700 traffic analysis zones (TAZ). Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

An important step in ridership forecasting is to establish the sensitivity of transit ridership to changes in transit fares. BART's last fare change, adopted by the Board in January 1995, implemented an increase on April 1 of 1995, 1996 and 1997. The last fare increase prior to these was nine years earlier, on January 1, 1986. Cumulatively, the increase in fares from 1986 to 1998 was 44.7%, less than the 47.1% change in CPI for the same time. Overall, the fare increases resulted in no long-term appreciable ridership loss. The SRTP ridership forecast is based upon the current fares and fare structure.

Load Factors

Load factors are measured as the ratio of passengers to seats. The service plans presented in this SRTP should provide sufficient capacity to maintain acceptable load factors for all peak period trains throughout the ten-year planning horizon. The patronage forecast assumes load factors are not so high as to deter patrons from riding. The service plans developed for this SRTP are designed to provide service such that peak hour transbay load factors for the four routes average 1.35 or less. During the peak minutes of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints.

During the SRTP planning period, average load factors during the two-hour shoulder comprising the remainder of the three-hour peak period are expected to meet the District load factor objective of 1.15 for each route. Offpeak load factors are targeted to average 1.00 or less for each train.

Historically, the peak hour transbay load factor has ranged from 1.45 in the mid-1980's to 1.25 in the early 1990s. Recently, as measured in March 1999, evening transbay load factors averaged 1.30 during the peak hour, 1.02 during the two-hour shoulder and 1.13 for the three-hour period. Morning transbay load factors averaged 1.33 for the peak hour, 0.98 during the two-hour shoulder and 1.11 for the entire three-hour period.

Travel Times

BART's Advanced Automatic Train Control (AATC), a radio-based train control system now under development, is expected to allow headways to be reduced to two minutes, with a peak hour transbay service capability of 30 trains per hour. This improvement is assumed to be operational by FY02, between Daly City Station and Bay Fair Station, the most congested part of the system. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner, reducing the number of trains in each loop, and therefore, the number of cars required for peak period service. In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at somewhat higher load factors.

Degradation of auto travel times, BART's primary modal choice competitor, is also assumed. This assumption reflects increased highway congestion, as growth in auto travel demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel demand model.

Extensions

The BART-SFO Extension of rail service south of Colma Station is assumed to open in FY02, consistent with the adopted project schedule.

The FY00 SRTP ridership and operating financial forecasts reflect only the BART-SFO Extension, and do not include operations of any other rail facilities or services identified in BART's draft FY00 CIP. Those projects include the West Dublin/Pleasanton Station, Warm Springs/Santa Clara Phase 1 Extension, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension and extensions to points further east in Contra Costa and Alameda counties. The District will continue to seek funding for those projects and will include the anticipated operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 41,666 parking spaces. As identified in Figure 1-3, BART plans call for adding 5,337 parking spaces with the opening of the four San Francisco Airport Extension stations in FY02 and 500 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART continues at current levels.

FORECAST RESULTS

As shown in Figure 3-1, ridership at current fares is projected to increase from a preliminary budget of 82.8 million trips in FY00 to 113.2 million trips in FY10.

Existing System Ridership

Using the assumptions outlined above, the resulting ridership forecast projects 95.0 million trips in FY10 for the existing system. This 1.5% annual growth from the FY00 preliminary budget of 82.8 million trips reflects ABAG population and employment growth projections for areas served by the BART system.

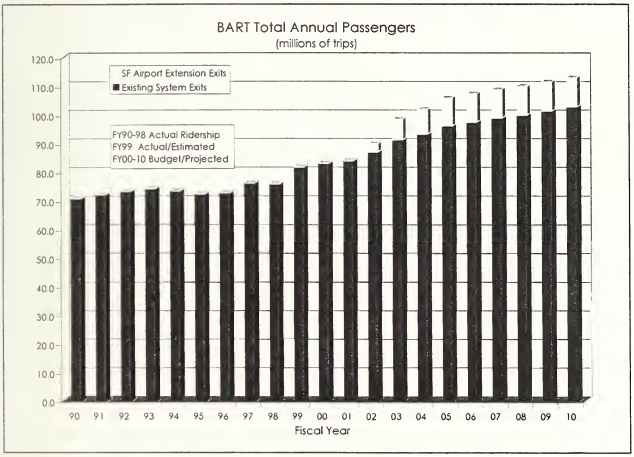
BART-SFO Extension Ridership

Ridership for the BART-SFO Extension is consistent with the MTC travel demand model and San Francisco Airport Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY10, passenger exits at the four extension stations is expected to be 10.3 million. (Total trips which either originate or terminate at these four stations are projected to be 18.2 million in FY10.)

Systemwide Ridership

At the end of this SRTP's planning period, FY10, the BART system will have 43 stations and 103 miles of double mainline track. Systemwide ridership is forecast to increase 36.7%, from a budget of 82.8 million trips in FY00 to 113.2 million trips in FY10. Average weekday trips are forecast to grow from the FY00 budget of 282,700 to a FY10 projection of 389,000.

Figure 3 - 1



BART's *Service Planning Model* is used to project the service plan elements for each fiscal year. The capital improvements in BART's draft FY00 CIP are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

Key assumptions used to develop rail service plans include the ridership forecasts and constraints such as load factor standards, minimum service headways, train end-to-end run times for train routes, routes to be operated and modular train sizing rules. Service plan output includes expected load factors, headways, number of trains on each route, total cars required, control cars required, peak trains on line, number of cars in maintenance, car hours and car miles and other parameters.

Ridership growth over the SRTP forecast period for both the core system and extensions will require more efficient and more frequent service relative to today's schedule. Figure 3-2 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 36.7% gain in ridership, from 82.8 million trips budgeted for FY00 to 113.0 million trips in FY10.

Key of this service plan is the addition of seven trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 63, including one three-car shuttle train from Millbrae Station to the San Francisco Airport. Five of these trains are planned for the peak hour, increasing transbay throughput from 21 trains in the peak hour currently to 26, by reducing the system's minimum scheduled headway capability from 2.5 minutes currently, to two minutes or less by with AATC.

Capital Improvements

Achievement of the service expansion required to handle future patronage is predicated on the timely implementation of BART's Capital Improvement Program as documented in the FY00 draft CIP. This CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's draft FY00 *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Complete renovation the original 439 A- and B-cars;
- Renovation of stations, including automatic fare collection (AFC) equipment, escalators and elevators;
- ADA accessibility improvements, including other elevator enhancements, parking and signs;
- Renovation and replacement of communications and train control systems, including implementation of AATC on the M- and upper A-lines to support two-minute minimum headway capability and faster train run times;
- Renovation and expansion of shops and yards and replacement of maintenance and other essential equipment.

PEAK PERIOD TRAINS AND CARS ONLINE

FY99 BUDGETED, FY00 - FY10 PROJECTED

ONLINE TRAINS		FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY10
RED	*Richmond*	9	9	9	9	9	9	9	10	10	10	10	10
YELLOW	*Pittsburg/Bay Point*	19	19	19	21	21	21	21	23	23	23	23	23
GREEN	*Fremont*	9	9	9	9	9	9	9	9	9	9	9	9
BLUE	*Dublin/Pleas.*	9	9	9	11	11	11	11	11	11	11	11	11
ORANGE	*East Bay*	10	10	10	9	9	9	9	9	9	9	9	9
MB-SFIA SHUTTLE		---	---	---	1	1	1	1	1	1	1	1	1
SYSTEM TOTAL - ONLINE TRAINS		56	56	56	60	60	60	60	63	63	63	63	63

ONLINE CARS		FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
RED	*Richmond*	90	90	90	90	90	90	90	90	90	90	90	90
YELLOW	*Pittsburg/Bay Point*	190	190	190	210	210	210	210	230	230	230	230	230
GREEN	*Fremont*	72	72	72	81	90	90	90	81	81	90	90	90
BLUE	*Dublin/Pleas.*	72	72	72	99	110	110	110	99	99	99	99	99
ORANGE	*East Bay*	63	63	63	54	54	54	54	57	57	57	57	57
MB-SFIA SHUTTLE		---	---	---	3	3	3	3	3	3	3	3	3
SYSTEM TOTAL - ONLINE CARS		487	487	487	537	557	557	557	560	560	569	569	569

Notes

Service levels as of June 30 of each fiscal year.

The BART-SFO Extension to the San Francisco International Airport and Millbrae is planned to open in FY02.

Advanced Automatic Train Control reduces car requirements on the Blue route by FY06.

Figure 3 - 2

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA). The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio, which is a measure of the efficiency of transit vehicle use. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The plans presented here reflect the latest FMP.

Operating Assumptions

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service will be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-West Bay, Dublin/Pleasanton-West Bay and Richmond-Fremont.

Service by Route and Extension

BART's *Service Planning Model* was used to establish that the service frequencies and routes outlined here would allow provision of service where and when it is needed. The number of routes on each line of the BART system is both necessary and sufficient to meet future demand.

As demand increases, BART provides additional capacity first by lengthening scheduled trains and then, as headway reduction capability and fleet expansion and availability permit, by adding more trains and adjusting train lengths. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures.

The four-station San Francisco Airport Extension is projected to open in December 2001 (FY02). Service plan options for this extension are currently being evaluated. For this SRTP, car and train requirements are based on the following service assumptions:

- *YELLOW ROUTE*, Pittsburg/Bay Point-Transbay. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.
- *RED ROUTE*, Richmond-Transbay. Richmond-Transbay service is provided at a minimum weekday base headway of 15 minutes. During the off-peak, service on this route terminates at Daly City Station. Currently, during the peak periods only, service extends south of Daly City Station to Colma Station. With the opening of the SFO Extension, it is anticipated that this route will terminate at Daly City.
- *GREEN ROUTE*, Fremont-Transbay. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont.
- *BLUE ROUTE*, Dublin/Pleasanton-Transbay. Service is currently provided on this route at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City

Station for the return trip to Dublin/Pleasanton. With the opening of the SFO Extension, it is anticipated that this route will extend service south of Daly City at a 15-minute headway.

- *ORANGE ROUTE*, Richmond-Fremont. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations.
- *MILLBRAE-SAN FRANCISCO AIRPORT SHUTTLE*. A three-car shuttle will be operated between these two stations when service south of Colma opens in FY02.

Line Headways and Train Run Times

Minimum scheduled line headways are currently 2.5 minutes for the Transbay tube, the section of the system with the heaviest train traffic. These current headways reflect the improvements of the System Throughput Enhancement Program, which modified the train control blocking system and made other changes to permit closer headways.

BART's Advanced Automatic Train Control (AATC) will allow trains to follow each other more closely, with a resulting minimum scheduled transbay headway of two minutes. This improvement will permit a capacity of up to 30 trains per hour in the peak direction. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner and reducing the number of cars required.

These service plans assume that AATC is installed by FY02 on the M- and upper A-Line (Daly City through Bay Fair). In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors. In the event that AATC is implemented on additional segments of the BART system, service quality could be further improved due to further reduction in run times. This could allow additional decreases in peak car requirements.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two adjacent stations. The service plans in this SRTP are based on maintaining acceptable peak period load factor conditions on all peak trains. This means systemwide averages no greater than a 1.35 load factor during peak hour operations and 1.15 during the shoulder periods and a maximum load factor of 1.00 for each train for off-peak service.

Modular Train Sizing

The service plans also respect *modular train sizing*. BART uses this operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. Currently, BART sizes trains on a *5/10* and *4/8* basis for transbay service and on a *3/6/9* basis for the Richmond-Fremont East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a ten-car train in half to form two five-car trains, or breaking a four-car train from a eight-car train. On the East Bay route, nine-car trains can be split up into combinations of three- and six-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

Due to fleet size constraints, future train sizing plans include less symmetrical combinations of train lengths such as *5/9* on one or more transbay routes. However, the service plans presented here still

assume that there are only two possible train lengths for each transbay route: a peak period length and a midday length.

Captive Fleet Program

BART's *Captive Fleet Program*, which assigns individual cars to a specific maintenance shop, has helped improve vehicle reliability. Accordingly, the service plans presented in this document return the cars to the same yard from which they were dispatched earlier in the day.

Car Requirements

The *Service Planning Model* produces the numerical elements of the Fleet Management Plan, including online car requirements, operating spares, number of cars in maintenance and the number of control cars required. Car requirements are determined based on the need to carry patronage without exceeding load factor standards, subject to operational constraints such as modular train sizing. The number of cars in maintenance is determined from the car hours to be operated and the projected age and rehabilitation status of the fleet. The minimum number of control cars needed is determined based on the maximum train count for each route and the requirement to resize trains from peak service train lengths to midday service lengths.

As shown in Figure 3-2, BART's online car requirements are forecast to increase from 487 currently to 537 during the opening of the SFO Extension, to 569 by FY10, the last year of this planning document. Based on the assumptions used in this forecast, as discussed below and shown in Figure 3-2, BART anticipates having sufficient vehicles to meet projected demand.

Maintenance Requirements

Maintenance is performed seven days a week, three shifts a day at each of BART's four shops. During the first two quarters of FY99, BART had an average of 102 cars not available for service at 4 a.m., due to preventative and unscheduled maintenance. The A-and B-Car Renovation Program will reduce the number of incidents requiring maintenance and the capital investment programmed for BART maintenance shops (discussed in the FY00 Draft CIP) will reduce downtime per incident, thus increasing the number of cars available for service. With the implementation of these improvements, the number of cars in for maintenance during the SRTP planning period is anticipated to decrease from 102 to 65.

Yard Logistics Cars

BART allocates a car to each of the Concord, Richmond, Hayward and Daly City maintenance yards for logistical moves in assembling and disassembling trains and moving out-of-service vehicles. Accordingly, four cars have been carried forward throughout the planning period for this purpose.

A- and B-Car Renovation Program

Note that, through FY03, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. Once this program is completed in December 2002, the 36 cars will no longer be rotated out the fleet and will be available to meet increased service needs.

Ready Reserve Cars

Ready reserves are cars used to form trains to be placed in stand-by mode. In the event that operational problems occur, such as a scheduled train being removed from service, a ready reserve

train can be dispatched in the empty train slot to maintain scheduled headways and merging. An eight-car ready reserve train is stationed in each of BART's four yards. Service plans presented in this SRTP assume that ready reserve vehicles are to be used in revenue service when car deficits arise, such as when 36 vehicles are out for A- and B- car renovation, or in the event that the planned reduction of cars in maintenance is not achieved.

ADA PARATRANSIT SERVICE PLAN

BART fulfills its ADA paratransit obligation through a variety of agreements with other transit operators and through participation in the East Bay Paratransit Consortium (EBPC), consisting of BART and AC Transit. By agreement, in the service area of the EBPC, BART and AC Transit jointly administer paratransit service through a contractor. BART assumes 31% and AC Transit 69% of the costs based on their proportionate areas of responsibility. In San Francisco, BART has entered a Memorandum of Understanding (MOU) with MUNI whereby MUNI provides service to meet BART's obligation and BART reimburses MUNI for 8.8% of the paratransit service to all San Francisco riders. Elsewhere, agreements provide for the local operators to receive California Transportation Development Act (TDA) funding as payment for providing for BART's obligation within the 0.75 mile radius of the stations. The local providers with which BART has agreements are: County Connection, Eastern Contra Costa Transit Authority (Tri-Delta), Western Contra Costa Transit Authority (WestCAT) and Livermore Amador Valley Transit Authority (LAVTA).

The data below summarize BART's share of anticipated annual ridership during FY00.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	190,000
San Francisco MUNI (8.8% of the program total)	98,000
Contra Costa (not including service provided by Fixed Route Operators)	40,000
Other East Bay service	6,500
TOTAL ANNUAL RIDERSHIP	**334,500**

Chapter 4 Fiscal Year Forecast and Financial Plan

BART's SRTP financial plan for FY00 through FY10 focuses on the fiscal requirements for providing service as described in Chapter 3. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY00 Preliminary Operating budget is presented first, and is the foundation for the ten year projections. Following the FY00 Preliminary Operating Budget is a discussion of the principles used to develop the District's financial forecasts for FY01 through FY10.

It should be noted that the following financial plan includes the impact of the Colma and San Francisco Airport Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996, and the BART-SamTrans-MTC Memorandum of Understanding dated March 11, 1999. Analysis indicates that the implementation of the San Francisco Airport Extension, in accordance with the terms of these documents, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN – THE FY00 PRELIMINARY OPERATING BUDGET

The foundation and starting point for the SRTP ten-year financial plan is BART's preliminary budget for FY00, the operating portion of which is summarized in Figure 4-1. The FY00 preliminary operating budget funds BART's rail service, ADA paratransit service, bond debt service for systemwide renovation and other needed allocations. The budget includes $365.7 million in operating revenue and financial assistance, balancing an equal amount of operating expenses, debt service, and capital allocations. BART's FY00 Preliminary operating budget also provides funding to respond to the following key areas of emphasis drawn from the Strategic Plan and the 1998 Customer Satisfaction Survey:

- The BART Customer Experience
- Building Partnerships for Support
- Transit Travel Demand
- Land Use and Quality of Life
- People of BART
- Physical Infrastructure
- Financial Health

The FY00 Preliminary Operating Budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the fact that FY00 expenses are expected to increase by only 2.4% above the adopted FY99 operating budget.

On the revenue side, the FY00 Preliminary Operating Budget assumes that ridership will grow by 4.3% over the FY99 adopted budget level. With cost growth limited to 2.4% and ridership increasing by 4.3%, the rail operating cost per passenger mile is projected to decrease in FY00 from 27.7¢ to 27.6¢.

The FY00 Preliminary Operating Budget assumes 5.6% annual sales tax growth over FY99 budgeted receipts. The FY00 budget also assumes 11.2% annual growth for property tax revenues relative to the FY99 budget. The FY00 Preliminary Operating Budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and rail extensions operations.

Figure 4 - 1

FY 00 BART PRELIMINARY OPERATING BUDGET

All Figures in Thousands of Dollars

REVENUE	
Net Rail Passenger Revenue	174,500.0
Express Bus and Shuttles	500.0
Total Net Passenger Revenue	**175,000.0**
Interest Revenue	7,500.0
Other Operating Revenue	8,083.5
Subtotal Non-Fare Revenue	**15,583.5**
Total Operating Revenue	**190,583.5**
EXPENSE	
Net Labor	221,191.5
Express Bus Service	2,309.0
Shuttle Service	105.0
Purchased Transportation	3,184.6
ADA Service	6,430.0
Power, Traction & Station	18,000.0
Other Non-Labor	56,132.1
Total Operating Expense	**307,352.2**
OPERATING DEFICIT	**(116,768.7)**
FINANCIAL ASSISTANCE	
Sales Tax	159,165.0
Property Tax	15,200.0
Transportation Development Act (TDA)	703.7
Total Financial Assistance	**175,068.7**
DEBT SERVICE & ALLOCATIONS	
Debt Service Allocations	(52,700.0)
PERS Operating Reserve Allocation	3,200.0
Capital & Other Allocations	(8,800.0)
Total Debt Service & Allocations	**(58,300.0)**
FINANCIAL RESULT	**0.0**

FY00 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY00 is budgeted at $175 million, and is 3.7% higher than FY99's budgeted revenue of $168.7 million. This gain reflects increased ridership witnessed, in large part, during FY99 and an adjustment to account for the leap year and Christmas Day and New Year's Day occurring on Saturdays. ADA paratransit service passenger revenue is budgeted at $0.5 million in FY00.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.5 million in FY00. Other non-fare revenue line items include fiber optic joint development agreements, pay telephones, concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum station), fines, and forfeitures. Revenue from these sources is budgeted at $8.1 million.

FY00 Operating Expense

Total operating expense for FY00 is budgeted at $307.4 million, 2.4% above FY99's budgeted expenses of $300.3 million.

Labor Expense and Staffing

Labor expense, which constitutes approximately 72.0% of BART's operating budget, is set to rise from $215.7 million in the FY99 budget to $221.2 million in FY00. This increase is primarily attributable to contractual 4.0% wage increases for all five BART unions and 3.0% wage increases for non-represented staff, plus maintenance and some improvements to benefits of all bargaining units. The operating budget headcount is set to rise by 36 positions to respond to the previously mentioned focus areas of the Strategic Plan and customer satisfaction survey. Total operating staffing is budgeted at 3,057 heads. These increases in unit labor costs and staffing are partially offset by an actuarially based reduction in the District's contribution to the Public Employees Retirement System.

Feeder Bus and Shuttle Bus Service Expense

BART is scheduled to pay the local operators proving feeder service in its former BART Express Bus corridors $2.3 million in FY00 per the regional cost sharing agreement. At a FY00 expense of $0.1 million, BART continues to fund a portion of the AirBART shuttle service to the Oakland Airport.

ADA Paratransit Service Expense

ADA paratransit services are set to be $6.4 million in FY00 based on updated regional paratransit service forecasts.

Purchased Transportation Expense

The MUNI Transfer payment expense is a reimbursement to MUNI for providing feeder bus service to BART stations in San Francisco. The current agreement, which governs this reimbursement, ties

this payment to the growth in sales tax. This expense amounted to $2.1 million in FY99, and is budgeted at $2.2 million in FY00.

Ridership projections indicate that approximately 3.8 million trips will either originate or end at the Colma Station during FY00, generating $8.2 million in net rail passenger revenue. After taking into account both riders diverted from the Daly City Station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY00 Preliminary Operating Budget projects that $1.0 million in net operating revenues will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 5.9% of the District's operating budget. Power expense is expected to decline 13.2%, from FY99's budgeted expense of $20.7 million to $18 million in FY00. This FY00 power expense savings is based on a combination of a favorable ruling from the Federal Energy Regulatory Commission requiring Pacific Gas & Electric to deliver federal power to BART at a lower costs and the decision to purchase (and not lease) the power substations which serve the Pittsburg/Bay Point and Dublin/Pleasanton stations.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $56.1 million in FY00, compared to the FY99 budgeted expense of $51.8 million. The main uses of the increased funding in this expense category will be materials for the maintenance and improvement of service, a 3.0% inflation adjustment, inventory control improvements, training and employee support, station area and capital program planning, customer outreach, marketing, and polling.

FY00 Financial Assistance

The District's FY00 operating budget includes $175.1 million from all sources of financial assistance; 6.0% over FY99's budgeted financial assistance of $165.2 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three-District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75.0% of this amount, with the remaining 25.0% shared by MUNI and AC Transit. The FY00 budget of $159.2 million for sales tax financial assistance reflects 5.6% growth over FY99 budgeted generations of $150.7 million. This 5.6% growth rate is based in part on the fact that actual FY99 sales tax revenues are expected to be slightly ahead of budget.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three-District counties to cover operating expenses. The FY00 Preliminary Operating Budget sets property tax revenue at $15.2 million, which is 11.2% higher than FY99's collection of $13.7 million. The high growth rate budgeted for FY00 reflects the fact that year-to-date FY99 property tax collections are also ahead of budget.

State Transportation Assistance (STA) / Transportation Development Act (TDA)

As part of its agreement with local operators to take over BART express bus service, BART will not be claiming the bulk of its STA and TDA financial assistance apportionment. MTC's FY00 Proposed Apportionment of regional assistance funds does, however, include $703,700 in Alameda County TDA Article 4.5 funds, which BART may claim to fund its operating expenses.

FY00 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

Sales Tax Revenue Bond Debt Service

At the beginning of FY00, BART will have $74.1 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $11.4 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $102.6 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. In addition, $348.5 million in principal will remain from a March 1998 sale and refunding. The FY00 debt service costs associated with these prior year bond sales will be $40.9 million.

The FY00 Preliminary Operating Budget anticipates the sale of approximately $142 million in additional bonds for System Renovation and $24.6 million in San Francisco Airport Extension Capital Reserve Account (CAPRA) bonds. The $10 million in annual debt service required for the former bond issue will be paid from sales tax revenues and the $1.8 million annual debt service on the CAPRA bonds will be paid from the current surcharge on trips taken to and from the Daly City station.

PERS Operating Reserve Allocation

The FY00 Preliminary Operating Budget anticipates a special, one-time "reverse allocation" of $3.2 million from reserves to the operating budget in July 1999. During FY96 and FY97, the District set aside a total of $3.2 million in anticipation of the restart of employer PERS pension payments. To date, this reserve remains unused. Since PERS has now informed the district that no further employer payments will be required for some indeterminate number of years, there is no longer a need for this $3.2 million reserve.

Capital Program Allocations

In line with the Capital Improvement Program, the FY00 Preliminary operating budget projects an $8.8 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above.

FY00 Financial Result and Indicators

The District's FY00 Preliminary Operating Budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations.

Farebox Ratios

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to go from 58% in FY99 to 59% in FY00. ADA paratransit service is forecast to have a 8% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 57% in FY00, increasing from FY99's 56%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. Increased non-passenger operating revenue collections due to fiber optic lease agreements in FY00 will result in a 62% operating ratio, which compares favorably to the 61% operating ratio for FY99.

Rail Cost per Passenger Mile

BART's rail cost per passenger mile was budgeted at 27.7¢ for FY99. The FY00 budget calls for this measure to decrease to 27.6¢ per passenger mile. This decline is related to rail ridership increasing at a slightly higher rate than rail operating expenses.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's Preliminary Operating Budget for FY00 is the foundation for the SRTP financial plan for fiscal years 2001 through 2010. The discussion below turns to the principles, which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles for Developing the Financial Plan

BART's financial plan for fiscal years 2001 through 2010 was developed in conformance with MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecast for passenger revenue should be based on ridership projections, which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for existing system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for the San Francisco Airport Extension, which are identified in adopted environmental documentation. *The SRTP financial plan assumes that fare levels are maintained at their current rates.*

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at an annual 3.0% CPI rate for the entire SRTP planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 3. Other expense items include required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by the rates included in executed agreements or by a 3.0% annual CPI factor where no agreements apply.

- **The forecasts for regional sources of financial assistance should include MTC's projections.** MTC's long term forecast for annual sales tax growth in the three BART counties is 5.4% through FY05 and 5.0% annual growth thereafter. The FY00 SRTP also assumes STA or TDA funding for ADA paratransit services grow by these same annual rates.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on the long term average growth rate for this revenue source.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs, which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY99 and FY00, the Strategic Plan, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and comply with federal ADA paratransit service requirements.

In May 1994, the District and MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects beyond the scope of the agreement with MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues (the last bond sale is scheduled for the middle of 1999) and the fare increase package adopted in January 1995. The debt service requirement for these bonds is covered by this fare increase package.

In addition to the above fiscal obligations is the projected need for allocations of $93.6 million from the District's operating budget to support BART's ten-year capital program (refer to the FY00 CIP). These allocations consist of $49 million remaining from the FY98 SRTP's program of $76 million in capital allocations for System Renovation, as well as additional allocations of $44.6 million for outyear continuous renovation needs.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance per the federal mandate. As discussed above, the District's FY00 budget provides for full ADA paratransit service support, budgeted at $6.4 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 4-2, the base forecast builds upon the District's FY00 Preliminary Operating Budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast and the underlying assumptions for its elements are discussed below.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 3 and earlier in this chapter. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. Based on the methodology described above, rail passenger revenue is projected to increase, from $177.0 million in FY01, to $251.5 million in FY10.

Trips, which involve San Mateo County station use, are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the San Francisco Airport Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (June 1997), the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997), and the BART-SamTrans-MTC Memorandum of Understanding (March 1999).

SamTrans will be responsible for paying any net operating deficit on the BART Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFIA) will require BART to pay $2.5 million in annual rent to the SFIA. This rental payment is assumed to be funded from additional fare surcharges at San Mateo County stations. The Agreement also requires that airline employees using the BART-SFIA station receive a 25 percent discount off their fares. The proceeds from this additional surcharge are included in the net rail passenger revenue line in Figure 4-2.

San Francisco International Airport Premium Surcharges

In FY02, with the initiation of revenue service on the Extension, the District will implement an additional $1.50 surcharge on all trips using the BART station at the San Francisco International

Figure 4-2

FY00 Draft SRTP Financial Forecast

All Dollar Figures are in Millions

	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
REVENUE											
Net Rail Passenger Revenue	174.5	177.0	194.1	217.6	226.2	236.0	239.1	242.4	244.8	248.1	251.5
SFIA $1.50 Premium Surcharge Revenue	0.0	0.0	1.7	4.0	4.8	5.6	5.7	5.7	5.8	5.9	6.0
ADA Service Passenger Revenue	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Total Net Passenger Revenue	175.0	177.5	196.3	222.3	231.6	242.1	245.4	248.8	251.3	254.8	258.2
Interest Revenue	7.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Fiber Optic Revenue	2.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Other Operating Revenue	5.3	5.7	5.9	6.1	6.3	6.4	6.6	6.8	7.0	7.3	7.5
Subtotal Non-Fare Revenue	15.6	17.8	18.0	18.2	18.4	18.5	18.7	18.9	19.1	19.4	19.6
Total Operating Revenue	190.6	195.2	214.3	240.4	249.9	260.7	264.2	267.7	270.5	274.1	277.8
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EXPENSE											
Net Labor	221.2	230.2	251.5	265.4	275.9	289.9	301.8	313.8	324.4	335.1	346.1
Traction/Station Power, with lease costs	18.0	18.0	20.5	22.5	23.1	23.7	24.4	25.1	26.1	26.9	27.4
SFIA Rent	0.0	0.0	1.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	56.1	56.8	60.6	65.5	67.4	70.6	73.1	75.9	78.5	82.1	84.5
Subtotal Net Rail Expense	295.3	305.1	333.8	355.9	368.9	386.7	401.8	417.4	431.5	446.6	460.5
Feeder Bus Service (local op. subsidy)	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.5	3.6
Purchased Transportation (SamTrans)	1.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.4	6.4	7.0	7.5	7.8	8.0	8.2	8.5	8.7	9.0	9.3
Subtotal Non-Rail Expense	12.0	12.2	12.4	12.7	13.1	13.5	13.8	14.2	14.7	15.1	15.5
Total Operating Expense	307.4	317.2	346.2	368.6	382.0	400.2	415.6	431.6	446.1	461.7	476.0
OPERATING DEFICIT	(116.8)	(122.0)	(132.0)	(128.1)	(132.0)	(139.5)	(151.4)	(163.9)	(175.7)	(187.5)	(198.2)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	159.2	167.8	176.8	186.4	196.4	207.1	217.1	228.5	240.3	252.5	265.2
Property Tax Proceeds	15.2	15.8	16.4	17.1	17.8	18.5	19.2	20.0	20.8	21.6	22.5
STA & TDA Assist for ADA & Gen Op	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total Financial Assistance	175.1	184.4	194.1	204.3	215.0	226.4	237.2	249.3	261.9	274.9	288.5
DEBT SERVICE & ALLOCATIONS											
Prior Year Sales Tax Rev. Bonds	(40.9)	(40.9)	(41.0)	(41.2)	(41.3)	(41.4)	(41.6)	(41.7)	(41.9)	(42.0)	(42.0)
Future Sytstem Renavation Bands	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
SF CAPRA Debt Service	(1.8)	(1.8)	(3.6)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)
BART-SamTrans Allocation ta E. Bay Ext.	0.0	0.0	(2.4)	(10.4)	(15.7)	(20.4)	(19.9)	(19.4)	(18.8)	(17.8)	(17.2)
Capital Program Allocatians	(8.8)	(10.6)	(5.7)	(9.2)	(9.7)	(8.9)	(8.8)	(8.8)	(10.2)	(12.3)	(15.7)
PERS Reserve Account	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(58.3)	(63.4)	(62.8)	(76.1)	(82.0)	(86.1)	(85.6)	(85.3)	(86.2)	(87.4)	(90.3)
ANNUAL FINANCIAL RESULT	(0.0)	(1.0)	(0.7)	0.0	0.9	0.8	0.1	0.1	0.0	0.0	(0.0)
CUMULATIVE BALANCE	(0.0)	(1.0)	(1.7)	(1.7)	(0.7)	0.1	0.1	0.2	0.2	0.2	0.2
PATRONAGE											
Systemwide Average Weekday Trips (000	282.7	287.4	310.4	338.7	351.5	363.0	368.1	373.2	378.4	383.7	389.0
Systemwide Total Annual Trips (000's)	82,800.0	83,931.3	90,014.2	98,557.7	101,947.5	106,009.3	107,480.9	108,974.1	110,110.8	111,642.8	113,197.2

Airport. Per the terms of the FFGA with the FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding cost overruns on the San Francisco Airport Extension.

The imposition of this $1.50[5] surcharge, in conjunction with the other surcharges imposed at this station, will result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY03, growing to $6.0 million by FY10.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue assumes that ridership for this service will grow at constant 8 percent of ADA paratransit costs. BART's forecast for ADA paratransit passenger revenue is $0.5 million in FY00, growing to $0.7 million by FY10.

Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $177.5 million in FY01 to $258.2 million in FY10.

Operating Revenue from Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the 3.0% annual CPI growth rates, from $5.7 million in FY01 to $7.5 million in FY10. Additional operating revenue is generated by telecommunications fiber optics agreements. Revenue for current contracts is anticipated to yield $3.1 million annually between FY01 and FY10. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $9 million annually between FY01 and FY10.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's total operating revenue is projected to grow from $195.2 million in FY01 to $277.8 million in FY10.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY00 Preliminary Operating Budget; with adjustments made to reflect expense reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the projected service levels for rail operations, as discussed in Chapter 3. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles/hours
- Annual train hours

Additionally, the model input includes assumptions for the consumer price index. The FY00 SRTP assumes a 3.0% annual CPI growth rate.

Staffing and Labor Expense

Labor expense growth reflects the annual wage, salary, and benefit increases included in the FY98 through FY01 adopted labor agreements. Unit Labor costs after FY01 are projected to grow by the 3.0% inflation rate. In addition, labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increase in staffing is forecast to occur in FY02, when BART-SFO Extension service begins. Labor expense is forecast to grow from $230.2 million in FY01 to $346.1 million in FY10. (These figures assume that the employer contributions to the PERS retirement system that were suspended for FY00 will resume in FY05 at roughly one-third to one-half of their pre-FY00 contribution rate).

Traction and Station Power Expense

Future power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat from FY00 through FY01, per a tentative five year PG&E rate freeze. The projected amount of power consumption is scheduled to increase with the opening of the BART-SFO Extension in FY02. From FY03 to FY10, the basic cost per unit of power is assumed to grow at 3.0% annually.

SFIA Rental Payment

As discussed in the Revenue section, it is assumed that BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to the SFIA. This payment will begin in the third quarter of FY02, and will remain at $2.5 million per year over a 50 year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $56.8 million in FY01 to $84.5 million in FY10.

Feeder Bus Service (Local Operator Subsidy) Expense

In accordance with the negotiations with MTC and the local bus operators serving BART's current express bus corridors, the FY00 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million annual subsidy payment beginning in FY01 to FY10 to these operators. This payment will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, and temporary shuttles such as those needed for bus bridges due to cessation of rail service. This expense is forecast to grow at 3.0% annually through FY10 and amounts to approximately $0.1 million in each fiscal year from FY01 through FY10.

Purchased Transportation (Muni)

The formula, which defines the reimbursement for providing feeder service to BART from MUNI, is tied to sales tax growth. Purchased transportation expenses for MUNI transfers are forecast to grow from $2.3 million in FY01 to $3.6 million in FY10.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A net operating revenue payment of $1.0 million is budgeted for FY00. This amount will decrease to $0.8 million in FY01 as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans will decline to $0.4 million in FY02 since the San Francisco Airport Extension is scheduled to open half way through that fiscal year. Per the BART-SamTrans-MTC MOU dated March 11, 1999, all of the first $145 million in net operating revenues on the San Francisco Airport Extension (including the Colma station) are directed not towards SamTrans, but towards meeting obligations to BART's Eastbay Extensions program.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY10. ADA expenses are assumed to increase by the combined growth in CPI inflation and the number of stations in the BART system. On this basis, ADA paratransit expense is forecast to grow from $6.4 million in FY01 to $9.3 million in FY10.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $317.2 million in FY01 growing, by the combination of system expansion and CPI growth, to $476.0 million in FY10.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as was identified in the FY00 Preliminary Operating Budget portion of this chapter. The forecast for financial assistance through FY10 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The long term forecast for annual sales tax growth is 5.4% for FY01 through FY05, and 5% thereafter. This forecast is based on MTC's February 1999 regional growth rate projections for sales tax revenue in the three-county BART district and it approximates the District's long term sales tax growth rate. With these growth factor the amounts collected would be $167.8 million in FY01, which grows to $265.2 million in FY10.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY01 through FY10. Financial assistance from property taxes is forecast to be $15.8 million in FY01, growing to $22.5 million in FY10.

STA & TDA Financial Assistance

Although STA & TDA assistance is tied to sales tax collections, it tends to be fairly uneven in its annual generations. This small amount of assistance is, consequently, assumed to average $0.8 million annually between FY01 and FY10. This assistance is programmed for general operating expenses as well as BART's ADA paratransit program.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $184.4 million in FY01 to $288.5 million in FY10.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY01, BART will have $65.9 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $9.5 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $99.3 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. In addition, In March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. The combined debt service costs of these prior year bond sales will be $40.9 million in FY01 and $42 million in FY10.

Future System Renovation Bond Debt Service

The District's contribution to the cost of its System Renovation program is being made, in large part, through the sale of sales tax revenue bonds. To date $264 million in bond proceeds have been contributed to the program. An additional bond sale of approximately $142 million is planned for FY00. The annual debt service costs of this future bond sale are $10 million.

SFO Capital Reserve Account (CAPRA)

The FFGA for the San Francisco Airport Extension includes a section which requires BART to set aside funds in a CAPRA dedicated towards paying for potential ineligible costs on the San Francisco Airport Extension. The CAPRA set aside consists of two components: direct allocations from the operating budget and the sale of revenue bonds backed by fare surcharges. Through FY99 $7.5 million in direct capital allocations were made to this CAPRA. Beginning in FY00, the District will begin paying the debt service on $71.7 million in net bond proceeds which are backed by the revenue generated from the 76 cent surcharge collected at Daly City Station and the revenue generated by an additional $1.50 surcharge on all trips using the San Francisco International Airport BART Station. This $71.7 million in total bond proceeds would have an annual debt service requirement of $1.8 million in both FY00 and FY01 on the initial issue of $24.6 million. By FY03,

the annual debt service will rise to $5.3 million given the FY02 sale of the final $47.1 million increment of CAPRA bonds.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the opening of the San Francisco Airport Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. In FY05 – the fourth year of operations – the projected surplus is expected to reach $20 million. These surpluses could decline slightly after FY05 as fare revenue growth is outpaced by the growth in operating costs attributed to the extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans $145 million remaining buy-in commitment is liquidated. Annual surpluses thereafter will be used to repay loans made to the San Francisco Airport Extension per the BART-SamTrans-MTC Memorandum of Understanding.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $52.9 million between FY01 and FY06 to support the District's Capital Improvement Program (CIP) fiscal needs. (Of this $52.9 million, $49 million is the amount remaining from the FY98 SRTP program of $76 million in capital allocations). Without these allocations, critically needed projects would have to be delayed. As shown in Figure 4-2, annual capital allocations in the range of $6 million to $10 million are provided in FY01 through FY06. Outyear allocations totaling $47 million are programmed in FY07 through FY10 to fund ongoing capital equipment needs.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $63.4 million in FY01. Annual debt service and allocations will grow significantly in FY03 when the San Francisco Airport net operating revenue allocations to the Eastbay Extension start reaching their peak. By FY10 debt service and allocations will reach a high of $90.3 million.

Cost Containment and Revenue Enhancements: Progress Report

As discussed earlier in this chapter, the District has recently made major progress in both cost containment and revenue enhancement. On the cost side of the District's balance sheet, BART is currently negotiating agreements with its power providers that have already generated significant annual savings. In addition, BART and PERS have determined that the District will be able to educe its contributions towards meeting projected pension obligations. Lastly, BART has enjoyable favorable year-end operating budget balances which have enabled the District to "buy down" a portion of its multi-year obligation to its Track 1 capital program.

As far as revenue enhancement is concerned, the strong ridership growth seen over the last year has resulted in a higher 10 year forecast for passenger revenue. Additional revenue is also projected over the SRTP planning period due to recently executed contracts with advertisers and fiber optic providers. Financial assistance revenues have also been adjusted upward to recognize the recent strength in property tax collections. As a result of these developments, the FY00 SRTP financial plan will, in contrast to prior years, show no need for additional cost containment and revenue enhancement measures.

Strategies to Generate Additional Cost Containment & Revenue Enhancement

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 4-3, which identifies actual fiscal year expense for fiscal years 1986 through 1998. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs, which were published five years earlier.

As indicated in Figure 4-3, the District has a record of consistently managing its expenses to lower actual budgeted levels in any given fiscal year relative to the amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations.

Figure 4 - 3

ANNUAL BUDGET & SRTP FORECASTS vs ACTUAL EXPENSE

(Dollar Figures in Millions)

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK Forecast	% vs Actual	SRTP, 5-YEAR LOOK Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.6	208.2	0.8%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
97	267.7	269.1	0.5%	319.7	19.4%
98	296.2	288.9	-2.5%	344.9	16.4%
Average	---	---	1.2%	---	15.8%

Notes

The FY 86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier.

FY 86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier.

Variances reflect efforts to contain and/or reduce costs as well as changes in assumptions for extension start dates, fleet size, and CPI.

With the ten year $5.2 billion program (representing Expenses in combination with Debt Service & Allocations) presented in this SRTP's base forecast, every 1% savings realized from conservative planning and budgeting practices translates into a $52 million reduction in total program costs over the ten years. Any annual savings realized over the next ten years could be used to accelerate the implementation of projects included within Track 1 of the Capital Improvement Program (CIP) or to fund certain capital projects included in Track 2 of the CIP and operating programs developed in the Strategic Plan.

In addition to this general cost containment and revenue enhancement approach, it is useful to develop more specific strategies to assure that the District's financial health could withstand economic uncertainties like a downward deviation from the MTC and ABAG forecasts for future population, employment, inflation, and sales tax revenue.

Specific Cost Containment Strategies

1. *Reduced Car Miles:* The FY99 operating budget reflects a reduction of 1.4 million car miles from the prior year's budget due to more aggressive train resizing. Additional future reductions in car miles from train resizing would increase the complexity of operating the system, but could yield additional annual savings.
2. *Staffing Efficiencies:* While the SRTP projects future staffing needs based on a model output, actual additions to staff are made during a rigorous evaluation process which is conducted during the development of the annual operating budget. This process could allow for more streamlined staffing requirements than predicted by the cost model. In addition, new hires for expanded service could be offset by staffing reductions in other areas of BART's operations. For example, while BART was increasing its headcount to staff the five new stations it recently opened, it eliminated 125 other line, administrative, and management positions

Specific Revenue Enhancement Strategies

1. *TRACS Fiber Optic Revenues:* Annual revenues from BART's Agreement with MFS Technologies are included in the SRTP revenue projections only for contracts that have been executed to date. With continued strong interest from new vendors wanting to install fiber optic cables in the BART right-of-way there could be an additional $1 million to $2 million annually from this revenue source.
2. *County Transportation Sales Tax Measures:* While the initial attempt at the Alameda County Measure B half cent sales rollover was not approved at its June 1998 election, there is a possibility that another version of the measure will be approved before the current measure expires in 2002. A later version of the Measure B expenditure plan could include funding for BART's ADA paratransit and capital programs. In addition, there will be opportunities in the future to work with Contra Costa and San Francisco Counties in the development of the expenditure plans for the rollover of their half cent transportation sales taxes.
3. *Passenger Fees:* General fare increases equal to a fraction of the CPI growth over the next ten years should alone be able to raise sufficient revenue to address unanticipated financial challenges. In addition, the imposition of daily charges on a limited number of the District's 42,000 parking spaces could generate a few million dollars per year (net of ridership losses and the cost of administering these charges).
4. *Additional Capital Funds:* BART has generated capital funds from alternative funding programs such as cross border lease transactions and the right of way leasing to fiber optic network

providers noted above. BART will continue to pursue alternative funding opportunities in the future.

5. *Bay Bridge Replacement Traffic Impacts:* The eastern span of the Bay Bridge is scheduled to be replaced by 2003. The draft environmental document for this project notes that temporary bypass ramps will be needed during its last two years of construction while the new span is being linked to the Yerba Buena island tunnel and the Oakland touchdown area. While these bypass ramps will maintain the current five lanes of traffic in each direction, regular increases in travel times and bridge congestion could result. The draft environmental document also anticipates complete bridge and lane closures during off-peak periods. An increase in bridge congestion or off-peak bridge and lane closures could lead to an increased demand for transbay BART travel, and the associated increase in BART passenger revenues.

6. *Ballpark Ridership:* The ridership forecast included in this SRTP assumes that BART will carry 3,000 trips per game at the San Francisco Giants' new Pacific Bell Park beginning in April 2000. It is also assumed that BART will continue carrying its current level of riders to Oakland Athletics games at the Coliseum. Past performance indicates that there is significant upside potential for the BART ridership to the Coliseum. During the 1990 season, for example, BART carried an average of 12,000 trips to and from Oakland Athletics games. This amount is over twice the 5,000 trips currently generated by these events.

Financial Performance and Indicators

Farebox Ratio

As documented in Figure 4-4, the farebox ratio for rail operations is forecast to start out at 58% in FY01, and grows to 61% in FY05, reflecting the full build up of the ridership and revenue for the San Francisco Airport extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio will decline after FY05 to 54% by FY10. The ADA paratransit farebox ratio is forecast to remain at 8% over the 10-year period. The systemwide farebox ratio is forecast to be 56% in FY01, growing to 60% in FY03 before declining to 54% in FY10.

Operating Ratio

The system operating ratio is forecast to be 61% in FY01, increasing to 65% in FY03, and then decreasing to 58% in FY10.

Rail Cost per Passenger Mile

BART's rail cost per passenger mile is projected to be 28.1¢ in FY01. Growth in passenger trips at a rate higher than the growth in rail operating costs helps BART to improve this level of productivity up to FY04, when the rail cost per passenger mile is projected to be 26.7¢. Annual CPI growth in excess of passenger mile growth after FY06 results in these unit costs growing to 30.0¢ by FY10.

Figure 4 - 4

FY00 Draft SRTP Financial Performance Indicators

	Prelim. Budget FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
Farebox Ratios:											
Rail	59%	58%	58%	61%	61%	61%	60%	58%	57%	56%	55%
ADA	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
System	57%	56%	57%	60%	61%	61%	59%	58%	56%	55%	54%
System Operating Ratio	62%	62%	62%	65%	65%	65%	64%	62%	61%	59%	58%
Rail Cost / Passenger Mile	$0.276	$0.281	$0.281	$0.268	$0.267	$0.268	$0.275	$0.282	$0.288	$0.294	$0.300

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

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BART

San Francisco Bay Area
Rapid Transit District

FISCAL YEAR 2000
SHORT RANGE TRANSIT PLAN

July 1999 through June 2010
FISCAL YEARS 2000 THROUGH 2010

Adopted September 9, 1999

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FISCAL YEAR 2000

SHORT RANGE TRANSIT PLAN

Fiscal Years 2000 through 2010

The preparation of this report has been financed in part through a grant from the United States Department of Transportation (USDOT), Federal Transit Administration (FTA) under the Federal Transit Laws, 49 U.S.C. Chapter 53 and passed through the Metropolitan Transportation Commission (MTC). This report has been prepared in conformance with the MTC guidelines for Short Range Transit Plans.

The contents of this report reflect the views of BART, which is responsible for the facts, and accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the USDOT. This report does not constitute a standard, specification or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects.

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San Francisco Bay Area Rapid Transit District

September 9, 1999

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

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List of Acronyms

AATC	Advanced Automatic Train Control (system)
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
APTA	American Public Transit Association
BART	(San Francisco) Bay Area Rapid Transit District
Caltrans	California Department of Transportation
CAPRA	Capital Reserve Account
CCJPA	Capitol Corridor Joint Powers Authority
CIP	(BART) Capital Improvement Program
CMA	Congestion Management Agency
County Connection	Contra Costa County Transit Authority
CPI	Consumer Price Index
EBPC	East Bay Paratransit Consortium
EEO	Equal Employment Opportunity
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FMP	Fleet Management Plan
FTA	Federal Transit Administration
FY	Fiscal Year (July 1 - June 30 for BART)
LAVTA	Livermore Amador Valley Transit Authority
MFSNT	MFS Network Technologies
MOU	Memorandum of Understanding
MTC	Metropolitan Transportation Commission
Muni	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	(California) Public Employees Retirement System
PG&E	Pacific Gas and Electric
ROW	Right-of-way
RTC	Regional Transit Connection
RTP	Regional Transportation Plan
SamTrans	San Mateo County Transit District
SFO	San Francisco International Airport
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
TAZ	Transportation Analysis Zone
TBT	Technology Based Training
TDA	(California) Transportation Development Act
TLC	Transportation for Livable Communities
TOD	Transit Oriented Development
TriDelta	Eastern Contra Cost Transit Authority
VTA	(Santa Clara County) Valley Transit Authority
WestCAT	Western Contra Costa Transit Authority

Introduction

Developed and prepared in compliance with the Metropolitan Transportation Commission's guidelines and principles, BART's FY00 Short Range Transit Plan (SRTP) reflects the District's efforts to provide safe, reliable, and efficient service to the San Francisco Bay Area. This SRTP frames the District's challenges in the coming ten years by focusing on BART's operational requirements and underlying financial plans. The District's Capital Improvement Program supports the planned service and operational needs presented in this SRTP.

The SRTP is divided into four chapters. Chapter One presents a brief history of the BART District, as well as an overview of the current organization, major capital plant, workforce, rail and paratransit service, and fare structure. Chapter Two, new to the SRTP this year, details the framework of the District's recently adopted Strategic Plan and discusses current and planned efforts undertaken by BART that address the spirit of the Strategic Plan. Chapter Three, Service and Program Evaluation, describes current ridership and service and the methodology for forecasting ridership expansion and service needs and improvements. Chapter Four, Fiscal Year Forecast and Financial Plan, focuses on the financial assumptions and requirements of providing the service described in Chapter Three.

Chapter 1 BACKGROUND AND OVERVIEW

The San Francisco Bay Area Rapid Transit District (BART) was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. In 1962, voter approval of a $792 million general obligation bond issue in San Francisco, Alameda and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71-mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

The District is governed by a Board of nine publicly elected Directors, each representing the voters in one of nine election districts within the three-county District. BART's Fiscal Year (FY) 2000 budgeted workforce includes 3,438 full-time equivalent positions, 3,057 of which are for operations and 381 for capital projects. BART's departments are presented in the organization chart in Figure 1-1.

MAJOR COMPONENTS OF BART'S CAPITAL PLANT

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations and an administration and operations control center. Capital improvements made over the past 26 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer and six additional stations. Embarcadero Station opened for service in May 1976, North Concord/Martinez in December 1995, Colma in February 1996, Pittsburg/Bay Point in December 1996 and both Castro Valley and Dublin/Pleasanton in May 1997. A map of the current system is shown in Figure 1-2.

Revenue Vehicles

BART's current 669-car fleet consists of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars and 230 C-cars (the latter type consist of 150 C1s and 80 C2s, of which 42 are currently control-equipped). A- and B-cars are BART's first generation vehicles, manufactured between 1971 and 1975. C-cars constitute BART's second and third generation fleet. C1-cars were manufactured between 1987 and 1990 and newer C2-cars in 1995 and 1996. Control-equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control-equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control-equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 feet by 10.5 feet, and can be used as lead, mid-train, or trail vehicles.

Trains are operated from the lead A- or C-car and train movements are automatically controlled by computers located along the right-of-way (ROW). System train supervision is provided by BART's train control computer at the Operations Control Center (OCC), located in the Lake Merritt Administration Building in downtown Oakland. However, train operators aboard each train can override the automatic system should the need arise.

Permissible train lengths range from three to ten cars. [The three-car minimum train length is a California Public Utilities Commission requirement.] The ten-car maximum length corresponds to station platform lengths. Resulting capacity is between 192 and 720 seated passengers for three and ten-car trains, respectively. Vehicle performance specifications include a maximum 80-mile per hour speed. Revenue service is based on a 70-mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 35-miles per hour.

BART is currently renovating all 439 A-and B-cars. The renovation program will disassemble and completely repair, upgrade and rebuild the cars, restoring them to like-new condition. Up to 36 vehicles at a time are rotated out of the fleet and placed in production at the ABB Daimler-Benz Transportation, North America, (Adtranz) renovation facility in Pittsburg, California. These vehicles will be unavailable for service for periods of 2 to 18 months each and the last car is scheduled to return to service in December 2002. As of August 1999, 33 renovated cars have successfully completed all acceptance tests and are available for revenue service.

Figure 1 - 1

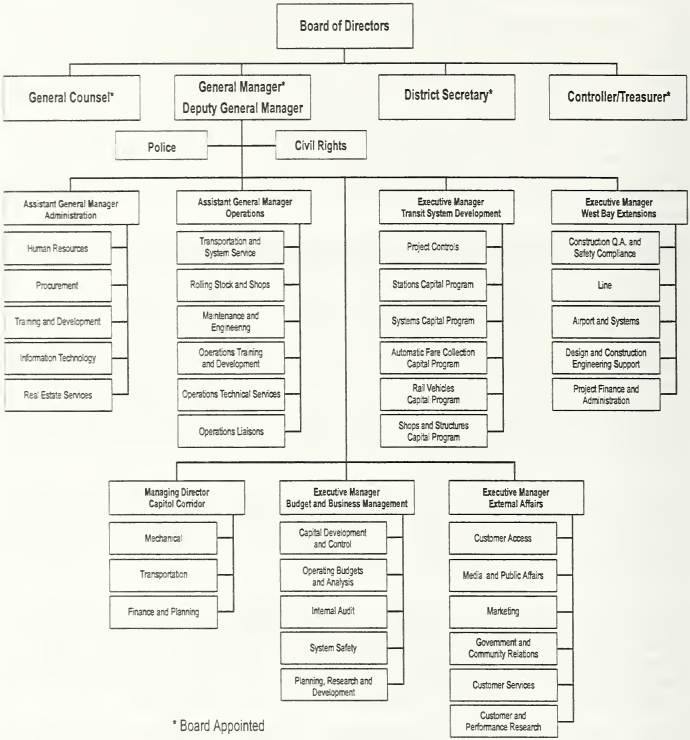
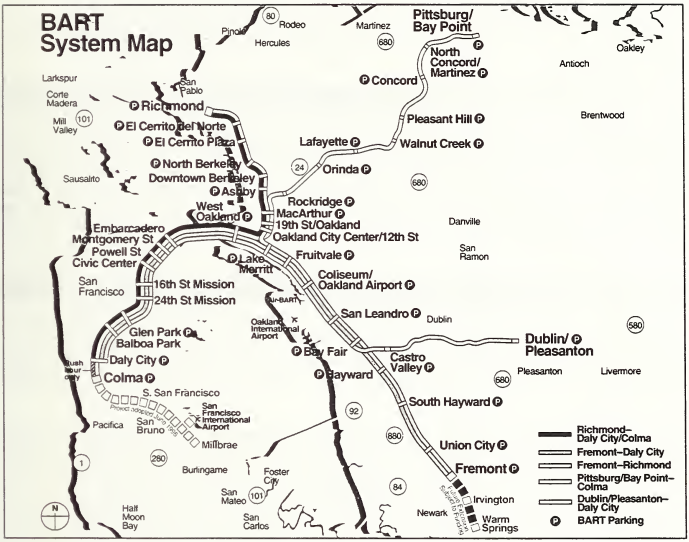

Board of Directors
General Counsel*
General Manager*
Deputy General Manager
District Secretary*
Controller/Treasurer*
Police
Civil Rights
Assistant General Manager Administration
Human Resources
Procurement
Training and Development
Information Technology
Real Estate Services
Assistant General Manager Operations
Transportation and System Service
Rolling Stock and Shops
Maintenance and Engineering
Operations Training and Development
Operations Technical Services
Operations Liaisons
Executive Manager Transit System Development
Project Controls
Stations Capital Program
Systems Capital Program
Automatic Fare Collection Capital Program
Rail Vehicles Capital Program
Shops and Structures Capital Program
Executive Manager West Bay Extensions
Construction Q.A. and Safety Compliance
Line
Airport and Systems
Design and Construction Engineering Support
Project Finance and Administration
Managing Director Capitol Corridor
Mechanical
Transportation
Finance and Planning
Executive Manager Budget and Business Management
Capital Development and Control
Operating Budgets and Analysis
Internal Audit
System Safety
Planning, Research and Development
Executive Manager External Affairs
Customer Access
Media and Public Affairs
Marketing
Government and Community Relations
Customer Services
Customer and Performance Research
* Board Appointed

Figure 1 - 2


BART
System Map
Pittsburg/
Bay Point
Rodeo
Martinez
Pinole
Hercules
Oakley
North
Concord/
Martinez
Antioch
Larkspur
Corte
Madera
San
Pablo
Concord
Richmond
Pleasant Hill
Brentwood
Mill
Valley
El Cerrito del Norte
El Cerrito Plaza
Lafayette
Walnut Creek
North Berkeley
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Danville
Embarcadero
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24th St Mission
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San Leandro
Dublin
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Bay Fair
Dublin/
Pleasanton
Castro
Valley
Daly City
Colma
Bayward
Pleasanton
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Francisco
International
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Pacifica
San
Bruno
Millbrae
Union City
Richmond–
Daly City/Colma
Fremont–Daly City
Fremont–Richmond
Pittsburg/Bay Point–
Colma
Dublin/Pleasanton–
Daly City
BART Parking
Fremont
Burlingame
Foster
City
San
Mateo
Irvington
Newark
Warm
Springs
Half
Moon
Bay
San
Carlos

Track and Right-of-Way

BART is a third rail, 1,000 volt DC, electrically powered railway. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 95 miles of continuously welded, double-mainline, 66-inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and a smooth operating surface. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards

Both planned preventative and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward and Richmond) and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward Shop also performs accident damage, component and heavy repairs. A fifth maintenance facility, the Oakland Shops, is located between Lake Merritt and Fruitvale Stations and provides support to buildings, grounds and equipment other than rail vehicles.

Stations and Parking

The system consists of 39 stations, 14 of which are in subway, 13 elevated and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and adjacent to San Francisco, Oakland and Berkeley downtown areas and two to ten miles apart in suburban areas.

Stations are accessed by stairways, elevators and escalators that link various levels to streets, connecting local transit and parking areas. Automatic fare collection (AFC) equipment is located in each station, to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information with regard to train schedules, local area destinations, connecting transit and other information to assist BART riders. A public address system linked to BART's Operations Control Center is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Depending upon location, station access facilities include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks and lockers and parking. Parking is an important feature at suburban stations where a majority of BART riders arrive by auto. BART's station parking inventory (Figure 1-3) consists of 41,455 free spaces at 28 stations and 211 spaces at Lake Merritt Station at a daily charge of 25¢.

Figure 1 - 3
BART PARKING SPACE INVENTORY
EXISTING & FUTURE STATIONS

EXISTING STATIONS	SPACES AS OF MAY 99	PLANNED FOR FY00 - FY10	TOTAL PROJECTED BY FY10
SAN FRANCISCO LINE:			
Colma (a)	2,491	0	2,491
Daly City	2,076	0	2,076
Glen Park	54	0	54
West Oakland (b)	419	0	419
Subtotal	**5,040**	**0**	**5,040**
FREMONT LINE:			
Fremont	2,197	0	2,197
Union City	1,196	0	1,196
South Hayward	1,314	0	1,314
Hayward	1,465	0	1,465
Bay Fair	1,639	0	1,639
San Leandro	1,234	0	1,234
Coliseum	1,026	0	1,026
Fruitvale	1,070	0	1,070
Lake Merritt	211	0	211
Subtotal	**11,352**	**0**	**11,352**
RICHMOND LINE:			
Richmond	789	0	789
El Cerrito del Norte	2,247	0	2,247
El Cerrito Plaza (c)	791	500	1,291
North Berkeley	806	0	806
Ashby	570	0	570
MacArthur	608	0	608
Subtotal	**5,811**	**500**	**6,311**
CONCORD LINE:			
Pittsburg/Bay Point	2,032	0	2,032
North Concord/Martinez	1,975	0	1,975
Concord	2,513	0	2,513
Pleasant Hill (d)	3,450	0	3,450
Walnut Creek	1,966	0	1,966
Lafayette	1,521	0	1,521
Orinda	1,385	0	1,385
Rockridge	886	0	886
Subtotal	**15,728**	**0**	**15,728**
DUBLIN/LIVERMORE LINE:			
Castro Valley	1,123	0	1,123
Dublin/Pleasanton	2,612	0	2,612
Subtotal	**3,735**	**0**	**3,735**
EXISTING STATIONS TOTAL	**41,666**	**500**	**42,166**
WEST BAY EXTENSION STATIONS:			
South San Francisco	0	1,337	1,337
San Bruno	0	1,000	1,000
San Francisco Airport	0	0	0
Millbrae	0	3,000	3,000
EXTENSION STATIONS TOTAL	**0**	**5,337**	**5,337**
SYSTEM GRAND TOTAL	**41,666**	**5,837**	**47,503**

(a) Colma Station includes 1,074 spaces in the SamTrans surface parking lot.
(b) A future parking project is subject to reevaluation and identification of a funding source.
(c) Contra Costa County Measure C provides funding for parking expansion in the City of El Cerrito. BART and the City are studying a possible future 500-space parking project at the El Cerrito Plaza Station
(d) Improved parking at Pleasant Hill Station added 581 temporary spaces as a construction mitigation measure during I-680/24 reconstruction. This temporary parking is reflected in the station total for Pleasant Hill.

Administration/Operations Control Center (OCC)

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's OCC and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer provides overall systemwide supervision of train movements 24-hours a day. Train controllers and other BART certified personnel located in OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow OCC personnel to visually monitor train movements and activities in and around stations.

KEY CHARACTERISTICS OF BART'S WORKFORCE

Behind the physical plant of BART stand 3,396 currently active, dedicated employees of the District. The average BART employee has worked with the District for 11.7 years and the longest employed person was hired on July 1, 1966. The youngest person employed by BART is currently 20 years old, the oldest is 73 years of age, with the average age of 46.4 years. The average BART employee salary is just over $51,000 per year.

BART RAIL SERVICE DESCRIPTION

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. Closing times for individual stations are coordinated with the schedule for the last train departure beginning approximately at midnight. Figure 1-4 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is either operated on a full or modified weekday schedule, or Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

Figure 1 - 4

BART RAIL HEADWAYS AND HOURS OF SERVICE

Effective February 1999

	TRANSBAY ROUTES				EASTBAY ROUTE	SAN FRANCISCO
	Pittsburg/ Bay Point - Colma	Fremont - Daly City	Dublin/ Pleasanton - Daly City	Richmond - Daly City (a)	Fremont - Richmond	Embarcadero Civic Center
***HEADWAY** (minutes)*						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY						
Day	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY						
Day	20.0	(b)	20.0	(b)	20.0	10.0
***SERVICE HOURS** (time)*						
WEEKDAY						
First Train leaves	04:02	05:06 (c)	04:01	04:56 (c)	03:58	04:43
Last Train arrives	01:24	20:43 (c)	01:25	20:43 (c)	01:28	01:07
SATURDAY						
First Train leaves	06:00	08:53 (c)	06:04	08:46 (c)	05:57	06:31
Last Train arrives	01:24	20:22 (c)	01:25	20:08 (c)	01:28	01:07
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:57	08:26
Last Train arrives	01:24	(b)	01:25	(b)	01:28	01:07

(a) Peak period service on this route is extended to Colma.

(b) Route not in service during identified time periods. Travel is accommodated on other routes with one transfer in downtown Oakland.

(c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA PARATRANSIT SERVICE DESCRIPTION

BART complies with the Americans with Disabilities Act (ADA) requirement to provide paratransit service which is comparable and complementary to the BART system. Federal regulations define the ADA paratransit service area as a 0.75-mile radius around a BART station.

To provide effective paratransit service in its widely dispersed service area, BART has established a variety of partnerships with other transit operators. In the joint service area with AC Transit, BART and AC Transit jointly fund and administer the East Bay Paratransit Consortium. In other parts of the BART service area, BART has arranged to provide funding to Muni, Contra Costa County Transit Authority (County Connection), Eastern Contra Cost Transit Authority (TriDelta), Western Contra Costa Transit Authority (WestCAT) and Livermore Amador Valley Transit Authority (LAVTA). These agencies provide paratransit service on behalf of BART at the same time as they provide for their own paratransit service obligation.

BART participates in a regional ADA eligibility process followed by the principal transit operators in the San Francisco Bay Area. Paratransit service is available to people who have been certified as being unable to access and ride BART because of their disability. Most of the paratransit service programs in which BART participates operate by reservation only. Muni is the exception in that it also provides for same-day taxi service under a user subsidy program. In addition, BART, along with other transit agencies in the Bay Area, participates in efforts at coordinating regional travel by paratransit through the Partnership Transit Coordinating Committee and its Accessibility Committee.

BART FARE COMPONENTS AND TICKET PRICES

The individual components of BART's fare structure are summarized in Figure 1-5, with station-to-station fares shown in Figure 1-6. The following presents information on BART fares for rail and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges are applied for Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County (San Mateo County is not a full participating member of the BART District). An additional *speed-premium* adjustment is made to fares, based on the scheduled speed of a trip versus the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtowns and other local areas. As shown in Figure 1-6, the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25%.

Starting in Fall 1998, students between the ages of 13 and 18 are able to purchase $33 high-value tickets for $25, a 25% discount through participating schools. The tickets also include a last-ride bonus. Students are limited to two tickets per month valid for weekday school-related travel. A review of ridership gain and program cost will be reported to the BART Board.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/Muni FastPass allows unlimited use of San Francisco Municipal Railway (Muni) services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART and other certain Bay Area transit systems serving BART rail stations.

The ADA limits the fare that can be charged for ADA paratransit service to twice the full adult fare for a comparable fixed route trip. Fares for paratransit service provided through the joint BART/AC Transit East Bay Paratransit Consortium (EBPC) are distance based and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. Paratransit travel within San Francisco is provided by taxi service at 10% of the meter rate, usually averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00 from Muni. Paratransit fares in BART's other service areas range from $1.00 to $6.00 per trip.

Figure 1 - 5

BART FARE COMPONENTS AND TICKET PRICES

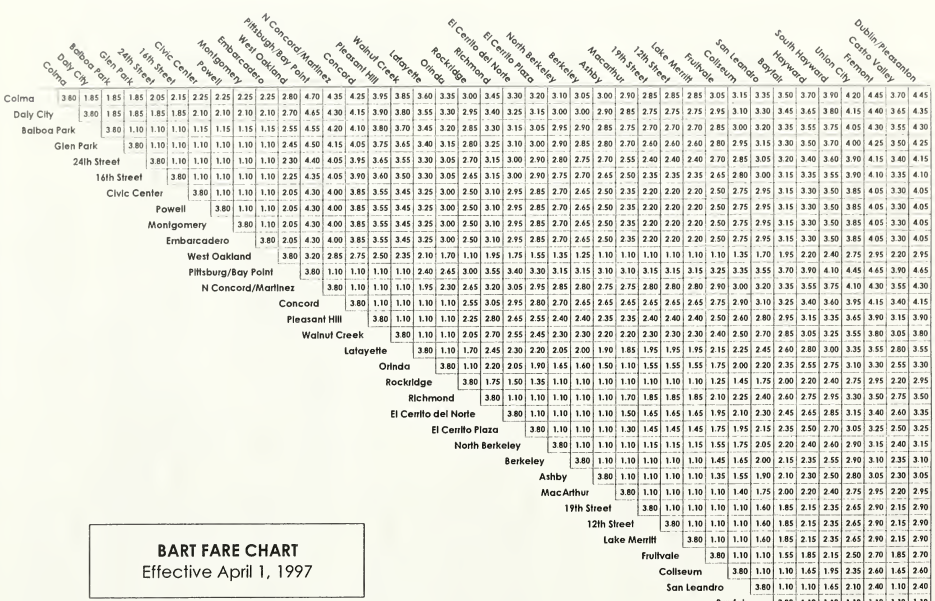
As of June 1999

TRIP LENGTH:	Up to 6 miles		$1.10
	Between 6 and 14 miles [1]		$1.34 + 9.9¢/mile
	Over 14 miles		$2.13 + 5.9¢/mile
SURCHARGES:	Transbay		66¢
	San Mateo County [2]		76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time		±3.7¢/minute
RESULTING FARES:	Range [3]		$1.10 to $4.70
	Average fare (before discounts) [4]		$2.39
	Average fare paid (after discounts) [4]		$2.13
RAIL FARE	Children under 5		Free
DISCOUNTS & SPECIAL FARES: [5] (high-value tickets)	Children 5 through 12 (75% discount)		$4.00 ($16 value)
	Persons 65 and over (75% discount)		$4.00 ($16 value)
	Persons with a qualifying disability (75% discount)		$4.00 ($16 value)
	Students 13 through 18 (25% discount) [6]		$25.00 ($33 value)
	Regular adult (6.25% discount)		$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [7]		$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]		$28 to $61 (8 denominations)
MONTHLY RAIL/ SF MUNI PASS: [9]	FastPass -- (within San Francisco, unlimited monthly use of BART & Muni)		$35
ONE-WAY TRANSFERS TO: [10] (issued at rail stations)	County Connection		50¢ ($1.00 base fare)
	Union City Transit		25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM: [10] (issued at rail stations)	AC Transit:	From BART	$1.00 ($1.25 base fare)
		To BART	$1.00 ($1.25 base fare)
	SF Muni, within SF:	From BART	$1.00 ($1.00 base fare)
		To BART	Free ($1.00 base fare)
	SF Muni, Daly City Station:	From BART	Free ($1.00 base fare)
		To BART	Free ($1.00 base fare)
ADA SERVICE:	East Bay Paratransit Consortium [11]		$2.25 to $6.75
	BART/Muni Cost-Sharing Agreement [12]		80¢ to 90¢ approximately
	All other areas		$1.00 to $6.00 approximately

Figure 1 - 5

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.
2. The San Mateo County surcharge does not apply to Transbay trips.
3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980 and November 3, 1975.
4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco Muni FastPass. The figures shown are FY99 actuals.
5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.
6. Students are limited to two tickets per month for weekday school-related travel only and tickets include a last ride bonus.
7. There is a three-hour limit on the excursion fare.
8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, Muni, SamTrans, County Connection, Valley Transportation Authority, Union City Transit, Dumbarton Express and WestCAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.
9. BART began accepting the regular adult Muni FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment and other outlets in San Francisco.
10. Except for the two-part $1.00 (round trip) Muni transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer are equal to the base fare less the additional fare paid to the connecting transit system.
11. BART and AC Transit have formed the East Bay Paratransit Consortium (EBPC), which provides service to eligible BART customers in service areas that overlap with AC Transit.
12. BART has executed a cost-sharing agreement with San Francisco, which permits eligible BART customers to use paratransit service provided by Muni for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.



BART FARE CHART
Effective April 1, 1997

Figure 1 - 6

Chapter 2 GOALS, OBJECTIVES AND STANDARDS

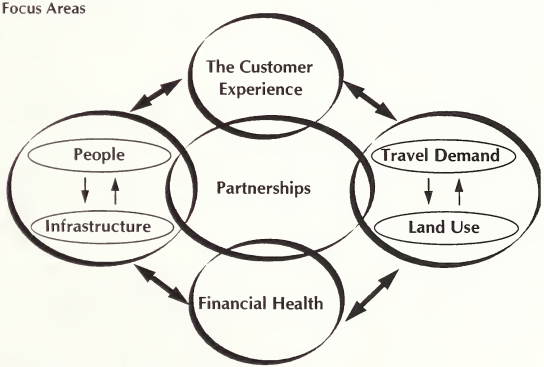
Throughout its history, BART's mission has been to deliver safe, reliable, customer-oriented transportation. Now, as we move into the next century, BART continues to be guided by those key descriptive words: safe, reliable, customer-oriented. Evolution of BART has been greatly influenced by challenges presented on many fronts, including those relating to technology, fiscal requirements and political realities.

BART has continually set high standards for itself as embodied by the recently adopted 1999 Strategic Plan. Central to achieving prescribed standards is the importance the organization places on nurturing a talented and dedicated workforce, capable of maintaining the system while preparing to meet the challenges of the future. As such, the organization's effectiveness is directly related to its policies and procedures to promote positive change.

The evaluation of BART programs as presented in this chapter is structured around the policy framework of the new 1999 Strategic Plan, developed to guide current operations and the development of new services. BART's Strategic Plan focuses on seven areas of concern key to the future of BART (see Figure 2-1). Each of these focus areas is supported by a vision statement, defining BART's aspirations as it looks to the future, and one or more goals, regarding what BART wants to achieve in relation to specific objectives.

BART's Strategic Plan goals, presented in this chapter in bold shaded text areas, are comprehensive and address all major areas of service. The next step of the Strategic Plan is to develop an implementation plan. The discussion in this chapter, of current efforts undertaken by BART to achieve the goals, will aid in the development of the implementation plan. Future SRTP plans may be modified to reflect implementation of Strategic Plan programs.

Figure 2 - 1
Strategic Plan Focus Areas



BART CUSTOMER EXPERIENCE

Continually improve customer satisfaction by maintaining performance standards and providing quality customer service

BART Performance Standards address both the efficiency and effectiveness of the transit services provided. Figure 2-2, BART Performance Indicators, provides actual data for FY99 for key areas as rated against specific, measurable and quantifiable standards. Some standards are changed each year to reflect new priorities established as part of the annual budget process. For example, the standard for mean time between service failures, a measure of car equipment reliability, was raised to 1,300 hours from 1,200 hours, in anticipation of the increased reliability requirements for the BART-SFO Extension.

During FY99, BART performed very well in most areas, particularly average weekday ridership and daily customer on time. BART's highest ever weekday ridership, excluding days following the 1989 Loma Prieta earthquake, was posted on March 17, at 301,000 trips. The improved customer on time rating reflected increased organizational emphasis on delay management. New, higher quality tickets have improved automatic fare collection (AFC) gate and vending equipment performance. Train on time has not quite reached its standard, mainly due to false occupancies on the track and a number of major incidents, including a refinery fire near the Richmond Station.

BART extends the commitment to monitoring performance and satisfaction to ADA paratransit services. These services are regularly measured against performance standards in many areas including on time performance, complaints, productivity and safety. In addition, for three years BART has commissioned a Customer Satisfaction survey of the East Bay Paratransit Consortium, one of the larger of Bay Area paratransit systems. Statistics and performance measures are used by staff to improve performance and shared with the BART Board and with a variety of advisory groups made up of paratransit consumers.

BART Customer Satisfaction Survey

The most recent BART Customer Satisfaction Survey of 5,000 randomly selected customers was conducted in September 1998. Results indicate that BART is generally well regarded by its customers, with 86% saying that they would recommend BART to friends or guests. This high level of satisfaction spans all demographic groups, including customers of all ages, ethnicity, income levels, genders and disability status. In fact, 57% of those surveyed had a vehicle available that they could have used instead of BART. Actual train on time performance is rated the single most important service attribute to all customers.

Overall, satisfaction levels have declined slightly since the previous survey in 1996, with the percentage of respondents very satisfied with BART declining from 38% to 31%. Service characteristics important to customers, such as escalators and elevators, AFC equipment, train cleanliness and the availability and responsiveness of personnel, also declined in customer ratings.

Figure 2 - 2

BART PERFORMANCE INDICATORS	Fiscal Year 1999 ACTUAL	STANDARD	STATUS
Average Ridership - Weekday	278,683	271,452	MET
Customers on Time			
Peak	93.8%	94.0%	NOT MET
Daily	95.6%	94.0%	MET
Trains on Time			
Peak	89.5%	N/A	N/A
Daily	91.5%	95.0%	NOT MET
Peak Period Transbay Car Throughput			
AMPeak	98.4%	97.5%	MET
PM Peak	98.6%	97.5%	MET
Car Availability at 4 AM (0400)	542	523	MET
Mean Time Between Failures	1,295	1,300	NOT MET
Elevators in Service			
Station	98.4%	97.0%	MET
Garage	97.6%	97.0%	MET
Escalators in Service			
Street	94.4%	95.0%	NOT MET
Platform	97.3%	95.0%	MET
Automatic Fare Collection			
Gates	93.5%	95.0%	NOT MET
Vendors	89.0%	90.0%	NOT MET
Environment Outside Stations	4.7	4.8	NOT MET
Environment Inside Stations	5.2	5.1	MET
Station Vandalism	5.6	5.7	NOT MET
BART Police Presence	12%	14%	NOT MET
Station Service Personnel	91%	91%	MET
Train P.A. Announcements	82%	87%	NOT MET
Train Vandalism	5.5	5.5	NOT MET
Train Cleanliness	6.0	6.5	NOT MET
Customer Complaints			
Total Complaints	2,266	N/A	N/A
Complaints per 100,000 Passenger Trips	11.2	N/A	N/A
DBE Participation	29.4%	21.0%	MET
Police			
Part 1 Crime	N/A	N/A	N/A
Crimes Against Persons	43	76	MET
Trains	5	N/A	N/A
Parking Lots	15	N/A	N/A
Stations	23	N/A	N/A
Auto Theft	106	167	MET
Auto Burglary	193.5	348.0	MET
Safety			
Station Incidents/Million Patrons	6.9	11.4	MET
Vehicle Incidents/Million Patrons	1.9	3.2	MET
Lost Time Injuries/Illnesses/Million Hours	29.5	50.0	MET
OSHA Recordable Injuries/Million Hours	73.2	85.0	MET
Unscheduled Door Openings/Million Car Miles	0.3	0.4	MET
Rule Violations Summary/Million Car Miles	0.4	1.0	MET

In response to the survey ratings, programs to improve performance were funded as part of the FY00 Operating Budget. This includes over $2 million in additional funding for the Maintenance and Engineering Department for track wayside maintenance activities to improve on time performance. Additional resources have also been allocated to improve AFC equipment reliability. The FY00 Operating Budget also includes funding for further Customer and Performance Research to review current core measures such as on time performance, escalator availability and AFC availability, to better understand how these measures compare with the customers' actual experience. Other programs to improve the BART customer experience receiving additional funding and positions include car interior and station cleanliness, car exterior brightening, ticket exchange programs and cash handling staff.

Customer Business Plan

A Customer Business Plan was developed in response to Board and staff desire to raise the level of customer service awareness. The plan has three major priorities: sustain and increase the satisfaction of our riders, increase off-peak ridership and build public support for future BART initiatives. As noted in the previous section, BART customers are generally satisfied. However, any organization must look to increasing its opportunities to sustain and grow its customer base and support high levels of customer satisfaction. The Customer Business Plan supports and complements the Strategic Plan. The Customer Business Plan contains six goals:

- Increase the satisfaction of existing riders;
- Increase the number of new riders during off-peak;
- Improve the public awareness and perception of BART service;
- Reinforce throughout the District that BART employees are our most important asset in the delivery of high quality customer service;
- Expand an ongoing measurement of customer service delivery, externally and internally;
- Sustain and continue to build a high level of confidence in the BART system.

The District is implementing the goals through a variety of activities and involvement of staff and various bargaining units are key to the development and on going implementation of the plan.

BART Website

The purpose of the BART website (http://www.bart.gov/) is to expand customer outreach and help the District meet strategic goals. The website is an important tool for the District in an extremely "wired" market: The San Francisco Bay Area has more Internet users per capita than any other media market in the nation with 75 percent of adults online. The BART website receives over 2.1 million hits and over 500,000 page views per month and helps achieve the BART vision in several key areas, including:

- **Interactive Trip Planner**
  The BART website adds value to the customer experience by providing an easy to use interactive trip planner that automatically generates information customers need to ride BART. This includes departure times, arrival times, transfer information, fares, bicycle accommodations and other station information.

- **Direct Customer Correspondence**
  The BART website provides a direct channel for customer dialogue. Twenty percent of the District's customer correspondence is in the form of e-mail generated by the BART website. Research indicates that customers are drawn to the medium because of its speed and relative ease of use.

- **Online Ticket Sales**
  Started in January 1999, BART's website ticket sales program improves the in-station customer experience by providing an attractive alternative to rush hour ticket machine lines. BART's online ticket sales program offers an easy, convenient and secure way for customers to purchase BART tickets and have them mailed directly to the home or office. In addition, the program is beginning to tap new revenue streams with high-volume ticket sales associated with conventions and group tours to the San Francisco Bay Area.
- **Accessibility**
  BART's website accommodates user agents and assistive devices commonly used by persons with disabilities. (For example, blind and low vision users utilize assistive devices that read web pages out loud.) BART's website also provides alternative "text-only" descriptions of graphics, charts, and other images. Information contained on the BART website is also offered in alternative accessible formats such as Braille, large print and/or audio formats. BART, one of the first major organizations in the country to implement such standards, has been recognized in Internet trade publications as a leader in website accessibility.

Elevator Accessibility

BART has implemented an elevator mitigation program to assist riders in accessing BART stations when elevators are temporarily out of service. This program provides system-wide audio and written announcements and telephone-recorded messages with the latest status of all station elevators. When a rider determines that an elevator is out of service at a station he or she intends to use, a reservation can be made to provide a paratransit van trip to or from the closest station with a working elevator. This service is provided at no cost to the rider and is available to all riders who require use of an elevator to enter or exit the BART system.

Maximize regional transit access, convenience and ease of use through effective coordination among transit providers

Americans With Disabilities Act (ADA)

In addition to the provisions of ADA paratransit services, BART coordinates fixed-route accessibility with most local Bay Area transit agencies. The District's adopted ADA *Key Station Plan* and overall system accessibility program identify strategies for implementing accessibility improvements that are at least consistent with ADA and State Title 24, and in many cases, exceeds those standards. The District coordinates accessibility improvements with local Bay Area transit agencies.

Senate Bill (SB) 1474

Senate Bill 1474 authorized the Metropolitan Transportation Commission (MTC) to advocate consolidation of certain functions to improve regional transit service efficiency, improvements in service coordination to reduce duplicative service and coordination of service across public transit boundaries.

One of the major successes in implementing this bill was the transition of BART Express Bus service to four local operators. This process required transition agreements between BART and County Connection, LAVTA, TriDelta and WestCat. The transition has resulted in expanded feeder bus services to new BART stations, reduced operating costs and increased use of existing public facilities and resources. BART continues to work with each operator and the MTC reviews these services.

For FY00, the MTC has identified coordination projects for each operator. BART staff will monitor progress and provide input on the following projects:

- SB 602, which requires operators to maintain fare and transfer revenue agreements with every connecting agency as a condition of receiving State Transportation Assistance (STA) funds;
- Coordinated transit trip planning system and regional transit database of service information;
- Commuter Check;
- Regional paratransit guidelines, ADA Eligibility Program and operating guidelines;
- Regional Emergency Response Plan.

Translink®

Also a SB 1474 project, Translink® is a ticket concept designed to reduce the number of fare instruments in the region and improve passenger convenience. BART, in partnership with AC Transit, Caltrain, Golden Gate Transit, Muni, Valley Transit Authority (VTA) and Vallejo Ferry, will be participating in the Translink® demonstration scheduled to begin in Fall 2000. When fully implemented, Translink® will allow patrons to use any of the Bay Area transit operators, including BART, with a single ticket. Translink® will also reduce transit agency revenue loss due to fare evasion and fraud by improving fare collection security.

Regional Transit Marketing

A Regional Marketing Plan, being developed by the MTC in conjunction with transit operators, will further market SB 1474 programs and regional transit marketing activities. Current marketing activities include Back to Transit Week, an annual event promoting greater use of trains, buses and ferries in the Bay Area and sponsored by a committee of Bay Area transit agencies, including BART. Transit festivals held in Alameda, Contra Costa and San Francisco counties emphasize transit alternatives available and the benefits of using transit instead of driving.

Regional Transit Connection (RTC) Discount Card Program

BART is the lead agency for the RTC Discount Card Program. Under this program, twelve transit operators offer discounted fares to senior citizens and individuals with a qualifying disability. In 1998, major program changes were instituted to manage the program centrally and to reduce revenue loss. A central processor now verifies applicant information and issues ID cards. New computer hardware and database software were installed at each operator site, providing accurate customer and program management information. During the first year of the revised program, nearly 26,000 applications were received and 24,800 cards issued to approved applicants.

BUILDING PARTNERSHIPS FOR SUPPORT

BART will be viewed by stakeholders as a credible, trustworthy steward of the system we manage and operate, focused on improving our value to the riders and the communities we serve

BART-SFO Extension Outreach

During ongoing construction of the BART-SFO Extension, the community relations team needed ways to provide general project information, updated progress reports and construction notifications to city officials, business leaders and community members in the five cities impacted by the work. The BART website (http://www.bart.gov/), was the perfect vehicle to help meet these business goals and the BART-SFO Extension page is one of the most highly visited sections of the website.

System Renovation Outreach

The FY00 Operating Budget includes funding to increase communications about the System Renovation Program and to make visible to the public the work to improve the system that is often done behind the scenes.

Office of Civil Rights Outreach

The Office of Civil Rights is continuously outreaching to minority and women business enterprises, to inform them of upcoming contracting and purchasing opportunities. Outreach methods include vendor fairs, community forums and the BART website (http://www.bart.gov/). Provided is information about disadvantaged business enterprise certification, procedures and upcoming contracting opportunities.

BART will encourage and consider public input as integral to sound development and decision-making and make deliberate, disciplined decisions in the best interest of the people we serve

BART encourages public input in a variety of forums, including public hearings and public comment meetings (including a meeting held to hear public comment on the draft SRTP), Board hosted 'open forums' and Customer Service events in stations.

BART Accessibility Task Force

The BART Accessibility Task Force is comprised of representatives from the elderly and disability communities. The Task Force meets regularly with BART staff for the purpose of identifying projects which may further enhance system accessibility and offering specific suggestions concerning the implementation of improvements to the system.

The Board of Directors has supported a proposal to restructure the Task Force in order to provide broader representation and create more accountability. The District is developing a new set of bylaws and procedures that would establish an eighteen-member task force appointed by the Board. These changes will occur in FY00.

Service Review Advisory Committee

To ensure community and rider involvement in the ADA paratransit program, BART and AC Transit have established the Service Review Advisory Committee. The Committee meets monthly and advises the East Bay Paratransit Consortium in the areas of service delivery, performance, planning and customer issues. The Committee has sixteen members representing various communities and agencies in the Consortium service area.

BART Bicycle Advisory Task Force

There are six appointed members of the BART Bicycle Advisory Task Force, two people from each of the counties represented by BART: Alameda, Contra Costa and San Francisco. Each county's Bicycle Advisory Committee appoints these members. The Task Force is charged with reviewing and working with BART to improve bicycle access to and on BART.

Specifically, the Bicycle Task Force reviews proposed bicycle policies, offers suggestions for improvements, and discusses problems and complaints regarding bicycles on BART. The Task Force also presents recommendations to the Board and acts as a liaison between BART and bicyclists. Recent Bicycle Task Force projects include:

- upgrading and adding bicycle parking throughout the BART system;
- improving access for bicycles on BART trains;
- assisting BART in getting the word out about new bicycle programs;
- improving education and promotion of all bicycle policies;
- assisting in the organization and promotion of workshops aimed at giving bicyclists a forum to discuss any bicycle-related issue with the BART Board of Directors;
- reviewing and ultimately discontinuing the bicycle permit program in favor of easier access for bicyclists.

Residents of the Bay Area will value and take pride in BART as an integral part of their communities

Station Area Outreach

While the District historically has involved the communities around BART stations in its review of facilities improvements, the Board of Directors supports a new process to expand station area communities' involvement early on in the review process. Within District staff, a station area cross-functional team has been established to develop a more consistent program of outreach for each station. The primary focus of this new process is to increase the level of partnership between the community and the District. One of the first tasks of the station area team is to develop a station-by-station resource guide. The District will also continue to host community forums and focus groups as another method of outreach to the community.

Community Relations

Covering the three-county BART District, the purpose of the Community Relations function is to build relationships with identified community and special interest groups in order to communicate the District's policies, programs and projects. Community Relations is also required to provide feedback to the District from parties outside of BART in order to assess public opinion and transit needs.

Community Relations staff attend key community meetings and, where possible, participate in community events. Community Relations is responsible for making presentations and providing information to a myriad of persons, including chambers, trade associations, transit organizations and other public agencies and government bodies. In addition, Community Relations is responsible for acting as a community liaison when District crews' activities will impact on neighboring residents or businesses. Community Relations also conducts tours for schools, libraries and visiting officials.

Key elected officials, opinion leaders and decision makers will understand and actively support transit needs and initiatives

Congestion Management Agencies

The California Legislature created a requirement in 1989 for all urban counties to establish congestion management agencies (CMAs) and develop congestion management programs as an eligibility condition for state transportation funding. In addition to developing the congestion management program, each CMA is also responsible for developing a 20-year transportation plan for its county. One of the goals of the CMAs is to make it easier for local governments to tackle the increasingly complex problems of mobility, growth and traffic congestion. The CMAs make recommendations to the MTC regarding programming of state and federal transportation funds and determine allocation of local funds. Typically, BART's major capital projects are either included in or consistent with the county's 20-year transportation plan before BART can receive funding through the appropriate CMA.

Government Relations

The purpose of the Government Relations function is to administer and oversee the advocacy efforts of the District at the federal, state and local government levels. Government Relations develops and maintains good working relationships with elected officials at all levels, advances legislative policies and objectives of the Board, provides input and support to regional legislative efforts, and maintains awareness and support for the role BART plays in the regional transit system. Suggestions for desired legislation are solicited from various organizational units within the District. Once identified and analyzed, Government Relations will locate a bill author, develop legislative language and lobby for the bill's passage. Government Relations also monitors legislation at the federal, state and local levels which may have an impact on District business and testifies in the appropriate forums in accordance with Board direction.

In addition, working with contracted lobbyists, Government Relations participates in numerous public hearings, community meetings and other forums sponsored by elected officials. Government Relations also provides all correspondence, reports and speaking materials needed for legislative or elected officials' purposes.

Work to understand changing transit demand patterns and be prepared to respond and work proactively to influence travel demand trends in the region that support transit ridership

BART monitors daily ridership for individual stations, market areas and systemwide. This data is used to establish performance standards and projections for future budgets. Frequently, this data is used to advocate infrastructure investments best supporting transit ridership and to identify new potential opportunities to serve additional riders.

BART continually seeks to identify incentives to promote increased transit use, as exemplified in the Commuter Check program. Established by the MTC as a SB 1474 project, this program allows Bay Area employers to purchase and distribute transit vouchers to their employees as a tax-free benefit, or for employees to purchase the vouchers with pre-tax wages. The employee can use the voucher to purchase transit tickets or qualified vanpool fares.

Optimize the use of existing capacity

Marketing activities at BART focus on building offpeak ridership, ridership to specific destinations through joint programs with the public and private sector, and ridership by specific communities. Such activities include media promotions targeting holiday shoppers and theatre and sporting event patrons. The FY00 Operating Budget also includes funding for a latent demand study to survey potential BART users who are not currently riding, and to determine how they could be encouraged to use BART.

Based upon customer feedback, BART modified service effective February 1999. Prior to February, full-length trains operated every 30 minutes in the early weekday morning hours on the Richmond/Fremont and Pittsburg-Bay Point/Colma routes. The service change implemented shorter trains running every 15 minutes on the Pittsburg-Bay Point/Colma route and every 20 minutes on the Richmond/Fremont route. The service frequency is higher, providing better service to passengers, but the car hours, a key driver of operating expense, remain essentially unchanged. Additionally, certain overly crowded weekend trains were lengthened to provide more seats to passengers.

Encourage and facilitate improved access to and from stations by all modes

Access Planning Activities

The Customer Access Department completed an Access Strategy Plan for all stations and presented results to the Board in March 1996. The principle product of that plan is a computerized database which contains information for each station, each line segment, each line and the total system. The database identifies potential access improvements for all stations and contains analysis tools which allow access improvement concepts to be quickly tested for cost effectiveness at any given station.

In June 1998, the database became available on the District's local area network for BART staff use. This provides all departments with current access information about the BART system and can

greatly assist staff involved in station operations, maintenance, procurement and capital funding. In addition, the database will be a useful resource for implementation of the District's Strategic Plan and will be integrated into a station resource guide. The database will be updated annually to ensure that it is current and accurate.

Bikes on BART

In October 1996, the Board modified the policies governing bikes on BART by eliminating the need for bicyclists to obtain a permit and allowing bicyclists to ride in the rear end of any car except the lead car. As with all significant policy changes, BART extensively monitored the effectiveness and the acceptability of the new policy by all types of customers. At the end of the six-month pilot project, the policy change was deemed a success. Many of those surveyed felt BART was more "customer friendly" with the removal of the permit requirement. One in five customers who drive alone to BART stated it was possible to bicycle to the station. There was room in the non-peak direction for additional riders with bikes.

In November 1997, the Board hosted a Bicycle Workshop to gain feedback on the previous bicycle policies and, at the same time, directed staff to complete a thorough review of BART's bicycle policies. In March 1998, the Board reviewed and adopted the revised bicycle policies. The new policies, effective July 1, 1998, identified the train times on all BART schedules that could accommodate bicycles, based on load factors. This change in policy allowed bicycles at all times on Fremont-Richmond trains as well as on trains traveling toward the end of lines. Policy enforcement was transferred from the station agents to BART Police, train operators and other customers. The new pilot bicycle policies were evaluated and adopted permanently by the Board in March 1999. The Board made the policies even more "customer friendly" by removing the rule that bicyclists must board the rear door of a vehicle, allowing bicyclists to board any car but the first car of a train. The Board also directed staff to complete a market study evaluating the accommodation of bikes and luggage on BART trains.

Bicycle Parking at BART

In March 1998, the Board adopted a goal to double the number of bicyclists coming to BART by 2001, from 2% to 4% of total ridership. Since bikes are not permitted on crowded commute period trains and even non-peak trains are becoming more crowded with bikes, the more effective way to increase ridership with minimum impact is to provide quality safe and secure bicycle parking at stations. BART is conducting a one-year demonstration of various types of bicycle parking. Facilities not proven to be successful are being retrofitted, relocated and improved, based on new information gained from this and other demonstration studies.

BART Station Car Program

Station cars are automobiles that are used by several BART riders per day to give them access and egress to and from stations. BART has been developing the station car concept for the past seven years, initially focusing on electric vehicle technology. BART conducted a 30-month program using 40 electric vehicles imported from the Personal Independent Vehicle Company of Norway. A major conclusion of the program was that the sharing of cars was as environmentally important as the vehicle technology.

"CarLink," a new car sharing/station car program, was launched in February 1999, at BART's Dublin/Pleasanton Station using twelve compressed natural gas cars from Honda. The station car concept allows one BART customer to drive the car from home to the BART station. Another BART

customer then drives the car from the station to their work site. At the work site, the car is then used as a corporate pool car. Eventually, BART will have station car services provided by rental car companies, using gasoline-powered cars. With revenue coming in from each of the several daily users, the station car concept has the potential to become a major new opportunity for the rental car industry, as well as a mode for enhanced access to transit.

Feeder Bus and Shuttle Service

BART coordinates feeder bus and shuttle services to the BART stations with 18 local bus operators and approximately 30 shuttle providers. BART's primary goal for feeder service is to coordinate schedules and facilities improvements to provide smooth transfers from bus to BART and BART to bus. Most providers have transfer agreements with BART that provide a discount when using both BART and bus. Feeder services provide approximately 78,000 trips per day to and from BART stations, or, approximately 30% of BART ridership. The most significant level of coordinated bus service is in the San Francisco Muni and AC Transit services areas. BART's FY00 Capital Improvement Program details ongoing and planned improvements to bus access and bus-to-BART connections at eight BART stations.

AirBART Shuttle Service

BART and the Port of Oakland jointly provide AirBART bus shuttle service between the Coliseum Station and the Oakland International Airport. This shuttle operates seven days per week, at ten-minute headway and approximately ten-minute travel time. Service is provided using new 40-foot, low floor buses with the capacity to transport up to 35 passengers and luggage per trip. The low floor makes the equipment easily accessible to persons with disabilities. BART and the Port of Oakland jointly market this service and are evaluating opportunities to address the needs of employees who work at or near the airport.

Station Parking

As inventoried in May 1999, 29 of BART's 39 stations had parking facilities, totaling 41,666 spaces. Approximately 5,300 spaces will be added with the opening of the South San Francisco, San Bruno and Millbrae stations.

Pathfinder Program

The BART Pathfinder Program is a comprehensive sign and mapping program to enable BART customers to easily find their way to BART stations and out to local destinations. The Pathfinder Program is geared specifically to enhance pedestrian, bicycle and vehicle circulation between BART stations and the surrounding communities. A grant awarded to BART in 1997 began the program with a pilot project at the Pittsburg/Bay Point Station. The project has now been extended to Fremont and Union City Stations as well as parallel local pathfinder efforts at the Plaza and Del Norte BART Stations in El Cerrito and the Civic Center BART Station in San Francisco. Consistent with the FY00 CIP, it is anticipated that the Pathfinder Program will expande to include all stations systemwide.

Although the projects vary to address the unique local area surrounding each BART Station, all the Pathfinder Programs consist of four separate but integrated components:

- a detailed local station map which includes nearby destinations and paths for pedestrians, bicyclists, transit users and vehicle drivers;

- a customer brochure and map indicating local destinations around the BART Station as well as the transit connections, pathways and bike lanes which provide a direct and safe route to those local destinations;
- directional signage orienting customers to the local destinations identified on the brochures;
- larger BART Pathfinder signs on freeways and roads directing visitors and residents to BART.

Work to close gaps in regional rail services between major populations and employment centers/corridors

BART-SFO Extension

Extending south from Colma Station down the San Francisco Peninsula, BART is adding 8.7 miles of new track and four new stations, including a station located inside the San Francisco International Airport. Through a direct, cross-platform transfer with CalTrain at the Millbrae Station, this extension will connect communities further south on the Peninsula with those in the East Bay and San Francisco. The project broke ground in 1997 and is scheduled to have a revenue operations date of July 2002, per agreement with the Federal Transit Administration. However, BART continues to review the construction contracts with the objective of maintaining a December 31, 2001 revenue operations date.

Warm Springs/Santa Clara Phase 1 Extension

The Warm Springs Extension is the only remaining unbuilt extension in Phase I of BART's Extension Staging Policy and is identified in BART's CIP under the Track One capital program. There is growing regional interest in making this project Phase I of an extension into Santa Clara County as far south as San Jose. The proposed reauthorization of the Alameda County Transportation Sales Tax (Measure B) in 1998 included $165.5 million for a BART/Rail Extension to Warm Springs, which would significantly reduce the funding shortfall on this project. While the June 1998 ballot measure was not successful, Alameda County is considering putting the reauthorization of Measure B on the ballot in 2000.

Oakland Airport Connector

In conjunction with the Port of Oakland, BART is seeking funds to construct a 3.2-mile, fully automated, elevated train system between the Coliseum Station and the Oakland International Airport. The current AirBART bus system carries 400,000 passengers and airport workers. However, this system already operates at 90% capacity, and will become less effective as travel demand and road congestion in this corridor increases. The Connector, a solution favored by the Port of Oakland and the Coliseum community, is projected to carry 3.3 million people per year by 2010 and transport passengers five times faster than ground-based transit. It will do so with increased reliability and convenience, since it will more than likely operate on an elevated guideway for most of the trip.

Capitol Corridor

Through the enactment of the Intercity Passenger Rail Act of 1996, BART, along with five other transportation agencies in Northern California, formed the Capitol Corridor Joint Powers Authority (CCJPA) and assumed management of the Capitol Corridor (Colfax-Sacramento-Oakland-San Francisco-San Jose) intercity rail service on July 1, 1998. BART, managing agency for the CCJPA, oversees the contracts for the train operations and dedicated feeder bus routes and coordinates the interface of the service with 12 public transit bus systems, at least 16 intercity bus routes and five other rail systems. Goals of the CCJPA include working with local and regional transportation

providers to ensure seamless, multi-modal connections and providing more service at the existing level of funding by investing cost savings to improve and add service in the corridor. The Richmond Station connects Capital Corridor trains to the BART system. A future objective for the CCJPA is to extend the reach of the Capital Corridor rail service with dedicated feeder bus service to San Francisco, Reno, Nevada City, South Lake Tahoe, Santa Cruz, Monterey/Carmel and Santa Barbara.

In partnership with communities we serve, BART's properties will be used in ways that first maximize transit ridership and then balance transit oriented development goals with community desires

Partnership Opportunities

The District is custodian of a large-scale public investment, including many real estate assets. By encouraging high quality development on and near BART-owned properties, the District can promote the use of public transit and generate new revenues while creating attractive investment opportunities for the private sector and facilitating local economic development goals. BART station property development projects focus on private development promoting the use of existing regional infrastructure. The program is directed towards conformance with market conditions and pursues projects in areas where there is local support.

In concert with the private sector and local governments, joint development projects have been completed at the Castro Valley and Hayward BART Stations. The Castro Valley project consists of 96 residential units, restoration of the historic Strobridge House and a BART Zone Command Police Facility, the latter built and occupied at no cost to BART. The Hayward project consists of a series of property exchanges which have enabled the City of Hayward to construct a new City Hall, create a pedestrian plaza connecting the downtown to the BART station and has enabled the private sector to construct Atherton Place, an 80-unit housing development.

Board authorization has also been secured to construct the Fruitvale Transit Village with the Fruitvale Development Corporation, a subsidiary of the Spanish Speaking Unity Council. The Transit Village is a $35 million project consisting of La Clinica de la Raza, a Senior Center, the Cesar Chavez branch of the Oakland Public Library, a child care facility, multi-family residential units, office space, and a pedestrian plaza with retail on either side of the plaza. Construction is scheduled to begin in mid-1999 and be completed by late 2000.

Board authorization has also been secured to enter exclusive negotiations with local jurisdictions and the private sector for a number of projects, including:

- Richmond Station - Mixed-use project consisting of for-sale housing, retail, improved pedestrian access and a cultural arts facility;
- El Cerrito del Norte Station - Mixed-use project consisting of market-rate rental housing, retail and a BART Zone Command Police Facility;
- Ashby Station - Ed Roberts Campus, a mixed-use project containing office space for nine organizations serving people with disabilities, as well as retail;
- Pleasant Hill Station - Mixed-use project, currently undergoing additional planning activity with the community;
- West Dublin/Pleasanton Station - Mixed-use private sector projects and a new BART station.

A Special Entrance Agreement is also being negotiated with Millennium Partners to enable the Yerba Buena Gardens complex to directly connect to the Powell Street BART Station. In addition, a recently completed community planning process has resulted in capital funding from the MTC for station area

improvements at the 16th Street Mission Station, with the San Francisco Transportation Authority and Mission Housing Development Corporation taking lead roles in implementing the improvements.

In partnership with communities we serve, promote transit ridership and enhance the quality of life by encouraging and supporting transit-oriented development within walking distance of BART stations

Station Area Planning

The development of transit-oriented housing, jobs, retail and other services near BART stations has many potential benefits both to BART and the communities that desire such development. Medium- and high-density housing constructed adjacent to BART stations not only is in high market demand, but has a positive impact on overall ridership. Similarly, the creation of jobs adjacent to BART stations increases ridership. When located by suburban stations, these jobs attract reverse-commute riders, who occupy otherwise underutilized BART trains. The development of jobs near BART stations also makes more efficient use of existing rail infrastructure, reducing the demand for new roads. In addition, the provision for transit-oriented retail and services, such as daycare, at BART stations provides increased convenience for BART customers, thus attracting new riders. This convenience has become especially important as the number of single-parent families and dual-earner households rises and an increasing number of commuters find that they have to run errands on their way to and from work. The development of transit-oriented retail and services also has the potential to increase off-peak ridership on the BART system, thereby improving BART's operating efficiency and financial performance.

A new Station Area Planning Division, within the Planning Department, has been created in the FY00 Operating Budget. This new division will implement a number of strategies to work in partnership with the communities BART serves to maximize ridership and plan for joint and transit oriented development in and around BART stations. This includes working with local jurisdictions to prepare transit oriented development (TOD) guidelines and plans for BART station areas and reviewing the CIP priorities in the context of TOD guidelines and plans. Station Area Planning will also work to improve communication between BART and adjacent communities regarding BART station land use issues and will create and maintain a TOD information resource for use by BART staff, local officials, developers and the public, including information on funding opportunities, planning and construction.

BART is actively pursuing funding for station area development. The MTC's Transportation for Livable Communities (TLC) Planning Program provides funding for local areas to plan community-oriented transportation projects that can then compete for capital funding at the regional level. BART has submitted several station projects for inclusion in this program, including the 16th Street Mission and 24th Street Mission stations. BART staff has been working with community partners to improve safety and vitality in the vicinity of these stations. Through FY99, the MTC awarded TLC planning grants for the preparation of Community Design Plans at 16th Street Mission, 24th Street Mission, Concord and Ashby stations.

Create a welcoming and supportive working environment for all employees

BART provides a number of programs to enrich employees' lives. BART sponsors 'Take Our Daughters To Work' and 'Take Our Sons To Work' programs, two annual events promoting career development for children of District employees, as well as children in the BART community. Every summer, BART offers youth employment and training opportunities, allowing participants a chance to experience the world of work, as well as perform work benefiting the transit services provided by BART.

BART also stresses a healthy lifestyle. Fitness programs promote physical fitness, stress reduction, healthy dietary patterns and provide health club membership reimbursement for non-represented and Police employees. The Employee Assistance Program provides discreet personal and family counseling to employees experiencing emotional problems, legal or financial burdens, relationship issues, or other problems.

It is the District's policy to have a drug and alcohol free workplace. The principles guiding this are education, deterrence, enforcement and treatment. BART employees are occasionally exposed to threats of violence and physical or verbal assaults. Accordingly, BART has a 'Violence in the Workplace Prevention Program.' Employees are trained to recognize the causes and types of violence, warning signs and what to do in case of violence. The Program also includes stress management and conflict resolution techniques.

Have an organizational culture that respects, values and empowers employees and puts customers first, seeks to improve working relations within BART and between BART and the people and communities served

BART encourages its employees to get involved with local communities, including food, toy and clothing drives around holidays and visits and presentations to local community groups to assist their clients with job skills.

Employee Safety

A pilot Injury Prevention Program was implemented in FY99 at the Hayward Shop. Conducted by medical professionals, the program focuses on fitness and safe work practices. A significant reduction in injuries at Hayward Shop since the program began has been noted. The System Safety Department has implemented an ergonomics safety program involving workstation reviews, recommendation of ergonomic equipment and employee education. The FY00 Operating Budget includes funding for the Injury Prevention Program to build upon the ergonomics program and target District worksites with high incidences of on the job injuries.

Service Equity

The Title VI mandate of the FTA requires that federally assisted benefits and services be made available without regard to race, color, or national origin. It is a requirement that a Compliance

Report be completed every three years to assure that services are being equitably distributed. BART's most recent report was reviewed and approved by FTA as of October 1998. Approval of BART's Title VI Program expires in 2001.

Attract, train, retain and provide job enrichment and career growth to a dedicated and competent workforce

BART dedicates substantial resources to reach this goal, starting with orientation programs for newly hired employees. This is continued on a quarterly basis with career development training in career planning, effective interviewing and effective writing. The Shadow Program allows participants to 'shadow' a target job for one week. New supervisors are given a weeklong training course to assist in the transition to a supervisory role and provide a broad-based education on how to be a leader.

Frequently requested by staff is the Myers-Briggs Temperament Workshop, an instrument for understanding normal personality differences. The Educational Assistance Program provides tuition reimbursement of up to $1,000 per year for BART employees taking credited job-related training or course work on their own time. The Employee Suggestion Program provides monetary awards for tangible and intangible suggestions that save the District time or money.

Online Job Applications

With the purpose of helping to attract a dedicated and competent workforce to lead BART into the new millennium, the BART website (http://www.bart.gov/) actively markets the District's employment opportunities to potential new hires. The BART website not only lists job opportunities and detailed job descriptions, it provides online job application forms that are sent directly to Human Resources for processing. The online application program generates approximately 200 applications a week for the District.

Equal Employment Opportunity (EEO) Program

To maintain a community wide image that values and includes the diversity of the communities within the service area and to meet federal requirements, BART implements an EEO program to assure equal employment opportunity in all personnel transactions based on job related requirements that are consistent with employment laws.

Diversity and EEO Training

The make-up of BART's workforce is rapidly changing. To keep pace with this change and the impact of an increasingly diverse workforce, training and education programs are provided to all employees to encourage an understanding and appreciation for differences. In addition, management staff receives training on hiring, managing a diverse workforce and handling employee concerns.

Complaint Counseling, Handling and Investigations

To prevent, identify or stop practices that may discourage attracting a diverse and talented applicant pool and to retain a multifaceted workforce, a number of options are in place to address employee concerns that arise. This includes an opportunity to review matters informally within or outside of the employing department, or filing a grievance with the union, the Office of Civil Rights, or with an outside enforcement agency.

BART Leads

In pursuit of the District's commitment to organizational learning and development, this advanced leadership program was developed and first implemented with the Operations Department in FY98. The four and one-half day course, BART Leads I, was designed to develop critical "core" competencies in the areas of leadership, strategic planning, process/systems performance improvement, high performance teams, business ethics and problem/decision analysis.

In FY99, the need for a follow-up program became evident based on the evaluation data collected from BART Leads I. This next level of training, BART Leads II, takes the theory into the work place. At each session, employees assemble teams to apply their skills to real District projects and processes. Each team is assigned a facilitator from the training department to help set guidelines for meetings and a management-level advisor to remove barriers impeding the team goals. After approximately three months, the teams are brought back to evaluate their work and their ability to function as a team. BART Leads has become the model by which BART is setting norms of behavior that promote trust, openness and a common sense of purpose.

Retirement Programs

The District is anticipating an increasing number of retirees as those first hired 20 to 30 years ago reach retirement age. In the next seven years, over 800 employees will fit the retirement profile of 58 years of age with over 15 years of service. Coupled with a stable economy, low inflation and high stock market returns, retirements could grow to 125 per year, up from the current 80 per year. An increase of this size will require a different approach to handle retirement activity. BART is investigating trends and options.

BART offers its employees a deferred compensation plan, allowing them to defer a portion of their salary until future years, when it will be available upon retirement, termination, or other covered events. Also available to all District employees, with the exception of sworn police officers, is the Money Purchase Pension Plan. In 1981, District employees elected to establish this supplemental retirement program in lieu of the federal Social Security System.

Technology in Operations Training & Development

The continued expansion of the District coupled with the anticipated increase in retirees equates to an expected increase in the number of new employees requiring technical training. In addition, due to technological changes and advances in District equipment, training of existing employees requires longer sessions. As a proactive approach to minimize the cost of these issues and ensure all employees have the training necessary to perform their job effectively, Operations Training has been developing Technology Based Training (TBT) in all applicable subject areas. While TBT can be a high front-end investment, it has been proven to increase retention rates and allows for a vast amount of flexibility. In FY99, BART signed a MOU with Lawrence Livermore Laboratories and Chabot - Los Positas College to develop simulation technology for the District and is currently searching for funding to make this ultimate training tool a reality.

Annual Rodeo

BART's annual Rodeo, the latest held in April 1999 at the Hayward Yard, provides train operators, maintenance staff and other BART employees a chance to compete and showcase their skills in eight categories of transit events. Winners in the maintenance and train operator events will represent BART at the American Public Transit Association (APTA) International Rodeo, to be held in 1999 in Toronto. BART's Maintainers Team placed first in the 1997 and 1998 APTA International Rodeos.

Make annual investments in maintenance and repair of physical infrastructure sufficient to support safety, cleanliness, reliability, train performance and customer friendliness

BART's Performance Indicators measure service delivery, reliability and the cleanliness of BART's physical plant and support systems. The Operations Department reports performance monthly in the Performance Indicator charts and quarterly in presentations to the Board (Figure 2-2). This continuous monitoring allows the identification of areas requiring new or enhanced maintenance efforts, considered when the annual operating budget is developed. Areas that are falling short of the standard are sometimes funded on a short-term or ongoing basis, above and beyond routine operating expenses. For example, additional funding in the FY00 Operating Budget for AFC maintenance and station and car cleanliness programs is intended to improve performance in the related indicator areas.

Meet customer demands and assure the long term viability of BART by continuously re-investing in our aging infrastructure so as to maintain functional value

FY00 Capital Improvement Program

The FY00 Capital Improvement Program (CIP) details each of BART's five major capital programs: Systemwide Renovation, Extensions, Seismic Retrofit, Service Improvements and Research, Development, & Demonstration. Updated annually, the CIP outlines projects in the program areas currently underway or planned through FY10. See the FY00 CIP for more details.

Telecommunications Revenue

There is significant interest by telecommunications companies to have fiber optic cable installed within BART's extensive right of way (ROW). To take advantage of this interest, BART has formed a public/private relationship with MFS Network Technologies (MFSNT) of Omaha, Nebraska. Under a License Agreement with MFSNT, BART provides its ROW for telecommunications use and MFSNT provides its marketing capabilities and private funding for development of the commercial fiber optic improvements. Third party licenses with telecommunication companies for use of fiber optic cable within BART's ROW are prepared and negotiated by MFSNT. Annual revenue generated by these third party license agreements is shared between BART and MFSNT with 91% of gross revenue to BART and 9% to MFSNT.

A portion of BART's ROW exists within Caltrans' ROW. In exchange for permitting BART to generate revenue within the shared ROW, BART and Caltrans have executed an Air Space Lease agreement which provides Caltrans fiber optic capacity for their statewide Traffic Operations System portion located within the Bay Area.

The presence of a fiber-optic transmission network creates a valuable asset within the Bay Area, in turn creating opportunities for the formation of strategic alliances with other related companies and educational institutions. These alliances are being pursued to promote the development and application of high speed data transmission hardware and software for both residential and business

areas. In May 1999, the Board authorized BART to execute an agreement for the National Transparent Optical Network Consortium that would allow BART full membership on the Consortium Executive Committee and participation in this group's nationally recognized research and development efforts.

Insure that infrastructure and maintenance of capacity supports the planned level of service and provide the infrastructure flexibility to support the planned level of service

Advanced Technology

BART's Advanced Automatic Train Control (AATC), a radio-based train control system now under development, is expected to allow headways to be reduced to two minutes, with a peak hour transbay capability of 30 trains per hour. BART is developing a pilot system in conjunction with Harmon Industries, a Missouri based train-control equipment supplier. In preparation for the start of field testing, extensive radio-frequency propagation data collection has been completed and field hardware has been installed at the Hayward Test Track, BART mainline track and on test vehicles. Software modifications have been made to the vehicle Automatic Train Control onboard controller in preparation for integration with the AATC equipment. Laboratory system integration testing has begun at Harmon facilities. Implementation of AATC from Bay Fair Station to Daly City Station, the most heavily traveled portion of the system, is set for FY02.

BART's Research & Development Division continues to study the application of superconducting materials and alternative methods of fare collection and is also exploring other applications of the communication and control technology developed for the AATC system.

Remain a transit service that is competitive in terms of value

Strategies developed in the Strategic Plan to achieve this goal include: continue to pursue productivity improvements in all functional areas; make targeted, cost effective service adjustments to improve customer satisfaction; emphasize capital reinvestment programs that reduce operating costs; and seek out new technology advances that will reduce operating costs and increase customer satisfaction.

Maintain and improve the stability of our financial base

Chapter 4 of the SRTP, Fiscal Year Forecast and Financial Plan, discusses the FY00 Operating Budget and the accompanying Financial Plan through FY10. Projections of future operating ratios, a measure of earned revenue to expense, provide a picture of the District's financial sustainability.

BART's sound fiscal management results in high bond ratings, as exemplified in the AA bond rating during the $349 million March 1998 Sales Tax Revenue Bond Sale. A solid sales tax base, positive ridership growth and overall stability of the District's operations and financial plans result in excellent ratings.

Work with regional transit partners to advocate for funding needed first to sustain existing transit services and infrastructure reinvestment and then to pursue prudent expansion

The MTC prepares a 20-year Regional Transportation Plan (RTP) every two years. Each transit operator, including BART, provides projected transportation investment requirements. The RTP provides an opportunity to coordinate region-wide operating expectations and capital projects within the limited amount of financial assistance projected to be available.

Financial choices to be guided by prudent fiscal policies and reliable, useful revenue and expense forecasts and plans

BART has developed a reputation for sound business decisions and prudent fiscal management. New expenses are not added to a fiscal year budget until passing a stringent competitive review by senior management. The final fiscal year budget is reviewed, amended as necessary, and ultimately approved by the Board of Directors.

The FY00 Operating Budget provides funding for the development of a 30-year for capital investment model. Output of this integrated investment model will include specific strategies, investment programs and projects needing to be implemented over the next 30 years. Tiered increments of investment will integrate infrastructure renewal, capacity expansion and extensions. The District has already completed a review of long-term investment strategies and practices successfully used by other transit agencies and similar private sector companies.

The MTC provides forecasts of state, federal and regional revenues under its programming and allocation jurisdiction. The MTC also provides an estimate of the Bay Area consumer price index

(CPI), developed by an outside forecasting service. These forecasts for sales tax, Transportation Development Act funds (TDA), STA funds and CPI are utilized in the SRTP's ten-year financial plan, presented in Chapter 4 of this SRTP, Fiscal Year Forecast and Financial Plan.

Chapter 3 SERVICE AND PROGRAM EVALUATION

BART has always endeavored to provide first-class service to its passengers. As the system ages and expands, excellent service is more important than ever. Key to meeting this challenge is reasonable and realistic planning and development of future service requirements.

BART's ridership forecast is the main driver in the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors which influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan (SRTP) period is presented. This is followed by the Rail Service Plan, which includes a description of the service developed to accommodate core system and extensions ridership growth. The last section of this chapter describes BART plans for ADA paratransit service.

RAIL RIDERSHIP FORECAST

FORECAST ASSUMPTIONS

Key factors used to forecast ridership include regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions and subsequent extension ridership phasing. The forecast also incorporates projected patronage for the BART-SFO Extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts, as published in its *Projections '98 Update*, and the MTC travel demand model. The Ridership Forecasting Model uses demographic projections for 1995 (as a base year), 2000, 2005 and 2010 for each of the MTC's 700 transportation analysis zones (TAZ). Ridership propensity, measured in transit trips per demographic unit of population and employment, is established for current data and applied to station area projections.

BART Fares

An important step in ridership forecasting is to establish the sensitivity of transit ridership to changes in transit fares. BART's last fare change, adopted by the Board in January 1995, implemented an increase on April 1 of 1995, 1996 and 1997. The last fare increase prior to these was nine years earlier, on January 1, 1986. Cumulatively, the increase in fares from 1986 to 1998 was 44.7%, less than the 47.1% change in CPI for the same time. Overall, the fare increases resulted in no long-term appreciable ridership loss. The SRTP ridership forecast is based upon the current fares and fare structure.

Load Factors

Load factors are measured as the ratio of passengers to seats. The service plans presented in this SRTP should provide sufficient capacity to maintain acceptable load factors for all peak period trains throughout the ten-year planning horizon. The patronage forecast assumes load factors are not so high as to deter patrons from riding. The service plans developed for this SRTP are designed to provide service such that peak hour transbay load factors for the four routes average 1.35 or less. During the peak minutes of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints.

During the SRTP planning period, average load factors during the two-hour shoulder comprising the remainder of the three-hour peak period are expected to meet the District load factor objective of 1.15 for each route. Offpeak load factors are targeted to average 1.00 or less for each train.

Historically, the peak hour transbay load factor has ranged from 1.45 in the mid-1980's to 1.25 in the early 1990s. Recently, as measured in March 1999, evening transbay load factors averaged 1.30 during the peak hour, 1.02 during the two-hour shoulder and 1.13 for the three-hour period. Morning transbay load factors averaged 1.33 for the peak hour, 0.98 during the two-hour shoulder and 1.11 for the entire three-hour period.

Travel Times

BART's Advanced Automatic Train Control (AATC), a radio-based train control system now under development, is expected to allow headways to be reduced to two minutes, with a peak hour transbay service capability of 30 trains per hour. This improvement is assumed to be operational by FY02, between Daly City Station and Bay Fair Station, the most congested part of the system. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner, reducing the number of trains in each loop, and therefore, the number of cars required for peak period service. In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at somewhat higher load factors.

Degradation of auto travel times, BART's primary modal choice competitor, is also assumed. This assumption reflects increased highway congestion, as growth in auto travel demand outstrips programmed highway improvements. This assumption is consistent with the MTC travel demand model.

Extensions

The BART-SFO Extension of rail service south of Colma Station is scheduled to have a revenue operations date of July 2002, per agreement with the Federal Transit Administration (FTA). However, BART continues to review the construction contracts with the objective of maintaining a December 31, 2001 revenue operations date.

The FY00 SRTP ridership and operating financial forecasts reflect only the BART-SFO Extension, and do not include operations of any other rail facilities or services identified in BART's FY00 CIP. Those projects include the West Dublin/Pleasanton Station, Warm Springs/Santa Clara Phase 1 Extension, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension and extensions to points further east in Contra Costa and Alameda counties. The District will continue to seek funding for those projects and will include the anticipated operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

It is assumed that the relationship between the supply and demand for BART station parking remains relatively unchanged. Currently, the 39 BART stations have 41,666 parking spaces. As identified in Figure 1-3, BART plans call for adding 5,337 parking spaces with the opening of the four BART-SFO Extension stations and 500 additional spaces for core system parking expansion. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART continues at current levels.

FORECAST RESULTS

As shown in Figure 3-1, ridership at current fares is projected to increase from a budget of 82.8 million trips in FY00 to 113.2 million trips in FY10.

Existing System Ridership

Using the assumptions outlined above, the resulting ridership forecast projects 95.0 million trips in FY10 for the existing system. This 1.5% annual growth from the FY00 budget of 82.8 million trips reflects ABAG population and employment growth projections for areas served by the BART system.

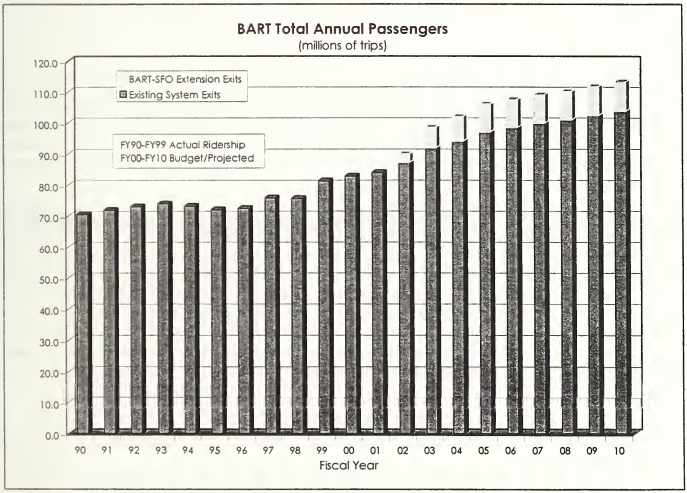
BART-SFO Extension Ridership

Ridership for the BART-SFO Extension is consistent with the MTC travel demand model and BART-SFO Extension environmental documentation for Locally Preferred Alternative VI, Aerial Design Option. In FY10, passenger exits at the four extension stations are expected to be 9.4 million. (Total extension volume, as counted by entries and exits at these four stations, are projected to be 18.8 million in FY10).

Systemwide Ridership

At the end of this SRTP's planning period, FY10, the BART system will have 43 stations and 103 miles of double mainline track. Systemwide ridership is forecast to increase 36.7%, from a budget of 82.8 million trips in FY00 to 113.2 million trips in FY10. Average weekday trips are forecast to grow from the FY00 budget of 282,700 to a FY10 projection of 389,000.

Figure 3 - 1



RAIL SERVICE PLANS

BART's *Service Planning Model* is used to project the service plan elements for each fiscal year. The capital improvements in BART's FY00 CIP are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

Key assumptions used to develop rail service plans include the ridership forecasts and constraints such as load factor standards, minimum service headways, train end-to-end run times for train routes, routes to be operated and modular train sizing rules. Service plan output includes expected load factors, headways, number of trains on each route, total cars required, control cars required, peak trains on line, number of cars in maintenance, car hours and car miles and other parameters.

Ridership growth over the SRTP forecast period for both the core system and extensions will require more efficient and more frequent service relative to today's schedule. Figure 3-2 summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 36.7% gain in ridership, from 82.8 million trips budgeted for FY00 to 113.0 million trips in FY10.

Key to this service plan is the addition of seven trains to BART's peak period schedule, increasing the maximum number of online trains from 56 currently to 63, including one three-car shuttle train from Millbrae Station to SFO. Five of these trains are planned for the peak hour, increasing transbay throughput from 21 trains in the peak hour currently to 26, by reducing the system's minimum scheduled headway capability from two and one-half minutes currently, to two minutes or less with AATC.

Capital Improvements

Achievement of the service expansion required to handle future patronage is predicated on the timely implementation of BART's Capital Improvement Program as documented in the FY00 CIP. This CIP reflects the operational parameters and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions and implement other upgrades and enhancements needed to support expanded operations. The following are some of the highlights from BART's FY00 *Capital Improvement Program* to support this expansion (see *CIP* for details):

- Complete renovation the original 439 A- and B-cars;
- Renovation of stations, including automatic fare collection (AFC) equipment, escalators and elevators;
- ADA accessibility improvements, including other elevator enhancements, parking and signs;
- Renovation and replacement of communications and train control systems, including implementation of AATC on the M- and upper A-lines to support two-minute minimum headway capability and faster train run times;
- Renovation and expansion of shops and yards and replacement of maintenance and other essential equipment.

Figure 3 - 2

PEAK PERIOD TRAINS AND CARS ONLINE
FY00 BUDGETED, FY01 - FY10 PROJECTED

ONLINE TRAINS		FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
RED	*Richmond*	9	9	9	9	9	9	10	10	10	10	10
YELLOW	*Pittsburg/Bay Point*	19	19	21	22	22	22	23	23	23	23	23
GREEN	*Fremont*	9	9	9	9	9	9	9	9	9	9	9
BLUE	*Dublin/Pleas.*	9	9	11	11	11	11	11	11	11	11	11
ORANGE	*East Bay*	10	10	9	9	9	9	9	9	9	9	9
PURPLE	*MB-SFO Shuttle*	—	—	1	1	1	1	1	1	1	1	1
SYSTEM TOTAL - ONLINE TRAINS		**56**	**56**	**60**	**61**	**61**	**61**	**63**	**63**	**63**	**63**	**63**
ONLINE CARS												
RED	*Richmond*	90	90	90	86	86	86	86	86	86	86	86
YELLOW	*Pittsburg/Bay Point*	190	190	210	213	213	213	225	225	227	227	227
GREEN	*Fremont*	72	72	81	86	86	86	86	86	86	86	86
BLUE	*Dublin/Pleas.*	72	72	99	104	104	104	94	94	94	94	94
ORANGE	*East Bay*	63	63	54	54	54	54	54	54	54	54	54
PURPLE	*MB-SFO Shuttle*	—	—	3	3	3	3	3	3	3	3	3
SYSTEM TOTAL - ONLINE CARS		**487**	**487**	**537**	**546**	**546**	**546**	**548**	**548**	**550**	**550**	**550**
TRAIN LENGTHS (peak hour/shoulder/midday)												
RED	*Richmond*	10/5	10/5	10/5	10/9/5	10/9/5	10/9/5	9/8/5	9/8/5	9/8/5	9/8/5	9/8/5
YELLOW	*Pittsburg/Bay Point*	10/5	10/5	10/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5
GREEN	*Fremont*	8/4	8/4	9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4
BLUE	*Dublin/Pleas.*	8/4	8/4	9/4	10/9/4	10/9/4	10/9/4	9/8/4	9/8/4	9/8/4	9/8/4	9/8/4
ORANGE	*East Bay*	9/6/3	9/6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3
PURPLE	*MB-SFO Shuttle*	—	—	3	3	3	3	3	3	3	3	3

Notes

Service levels as of June 30 of each fiscal year.

The BART-SFO extension to the San Francisco International Airport and Millbrae is planned to open in FY02.

Changes in online cars and trains in FY06 and FY08 result from shifting available resources of cars and trains to balance load factors among routes.

RAIL SERVICE PLANS

BART's *Service Planning Model* is used to project the service plan elements for each fiscal year. The capital improvements in BART's FY00 CIP are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

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- ADA accessibility improvements, including other elevator enhancements, parking and signs;
- Renovation and replacement of communications and train control systems, including implementation of AATC on the M- and upper A-lines to support two-minute minimum headway capability and faster train run times;
- Renovation and expansion of shops and yards and replacement of maintenance and other essential equipment.

Figure 3 - 2

PEAK PERIOD TRAINS AND CARS ONLINE
FY00 BUDGETED, FY01 - FY10 PROJECTED

ONLINE TRAINS		FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
RED	*Richmond*	9	9	9	9	9	9	10	10	10	10	10
YELLOW	*Pittsburg/Bay Point*	19	19	21	22	22	22	23	23	23	23	23
GREEN	*Fremont*	9	9	9	9	9	9	9	9	9	9	9
BLUE	*Dublin/Pleos.*	9	9	11	11	11	11	11	11	11	11	11
ORANGE	*East Bay*	10	10	9	9	9	9	9	9	9	9	9
PURPLE	*MB-SFO Shuttle*	—	—	1	1	1	1	1	1	1	1	1
SYSTEM TOTAL - ONLINE TRAINS		**56**	**56**	**60**	**61**	**61**	**61**	**63**	**63**	**63**	**63**	**63**
ONLINE CARS												
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GREEN	*Fremont*	72	72	81	86	86	86	86	86	86	86	86
BLUE	*Dublin/Pleos.*	72	72	99	104	104	104	94	94	94	94	94
ORANGE	*East Bay*	63	63	54	54	54	54	54	54	54	54	54
PURPLE	*MB-SFO Shuttle*	—	—	3	3	3	3	3	3	3	3	3
SYSTEM TOTAL - ONLINE CARS		**487**	**487**	**537**	**546**	**546**	**546**	**548**	**548**	**550**	**550**	**550**
TRAIN LENGTHS (peak hour/shoulder/midday)												
RED	*Richmond*	10/5	10/5	10/5	10/9/5	10/9/5	10/9/5	9/8/5	9/8/5	9/8/5	9/8/5	9/8/5
YELLOW	*Pittsburg/Boy Point*	10/5	10/5	10/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5	10/9/5
GREEN	*Fremont*	8/4	8/4	9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4	10/9/4
BLUE	*Dublin/Pleos.*	8/4	8/4	9/4	10/9/4	10/9/4	10/9/4	9/8/4	9/8/4	9/8/4	9/8/4	9/8/4
ORANGE	*East Bay*	9/6/3	9/6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/3
PURPLE	*MB-SFO Shuttle*	—	—	3	3	3	3	3	3	3	3	3

Notes

Service levels as of June 30 of each fiscal year.

The BART-SFO extension to the San Francisco International Airport and Millbrae is planned to open in FY02.

Changes in online cars and trains in FY06 and FY08 result from shifting available resources of cars and trains to balance load factors among routes.

Fleet Management Plan

BART is required to submit a Fleet Management Plan (FMP) to the Federal Transit Administration (FTA). The purpose of the document is to define the current and projected BART revenue vehicle fleet size and operating spare ratio, which is a measure of the efficiency of transit vehicle use. It includes a description of revenue service planned to accommodate extensions and forecast growth in patronage, as well as an assessment and projection of needs for vehicle maintenance. The plans presented here reflect the latest FMP.

Operating Assumptions

Minimum Service Frequencies

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service will be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-West Bay, Dublin/Pleasanton-West Bay and Richmond-Fremont.

Service by Route and Extension

BART's *Service Planning Model* was used to establish that the service frequencies and routes outlined here would allow provision of service where and when it is needed. The number of routes on each line of the BART system is both necessary and sufficient to meet future demand.

As demand increases, BART provides additional capacity first by lengthening scheduled trains and then, as headway reduction capability and fleet expansion and availability permit, by adding more trains and adjusting train lengths. Note that each route has a *color designation* depicted on system route maps located in each BART car and station, as well as in information brochures.

Service plan options for the four-station BART-SFO Extension are currently being evaluated. For this SRTP, car and train requirements are based on the following service assumptions:

- *YELLOW LINE*, Pittsburg/Bay Point-Transbay Route. Service to Pittsburg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.
- *RED LINE*, Richmond-Transbay Route. Richmond-Transbay service is provided at a minimum weekday base headway of 15 minutes. During the off-peak periods, service on this route terminates at Daly City Station. Currently, during the peak periods only, service extends south of Daly City Station to Colma Station. With the opening of the BART-SFO Extension, it is anticipated that this route will terminate at Daly City.
- *GREEN LINE*, Fremont-Transbay Route. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont Station.
- *BLUE LINE*, Dublin/Pleasanton-Transbay Route. Service is currently provided on this route at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for

the return trip to Dublin/Pleasanton Station. With the opening of the BART-SFO Extension, it is anticipated that this route will extend service south of Daly City at a 15-minute headway.

- *ORANGE LINE*, Richmond-Fremont Route. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations at 15-minute intervals.
- *PURPLE LINE*, Millbrae-San Francisco Airport Shuttle. A three-car shuttle will be operated between these two stations when service south of Colma Station begins operations.

Line Headways and Train Run Times

Minimum scheduled line headways are currently two and one-half minutes for the Transbay Tube, the section of the system with the heaviest train traffic. These current headways reflect the improvements of the System Throughput Enhancement Program, which modified the train control blocking system and made other changes to permit closer headways.

BART's Advanced Automatic Train Control (AATC) will allow trains to follow each other more closely, with a resulting minimum scheduled transbay headway of two minutes. This improvement will permit a capacity of up to 30 trains per hour in the peak direction. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner and reducing the number of cars required.

These service plans assume that AATC is installed by FY02 on the M- and upper A-Line (Daly City through Bay Fair). In the event that AATC is not implemented or is delayed, alternative service plans have been developed, capable of serving the projected patronage with the vehicles available, although at significantly higher load factors. In the event that AATC is implemented on additional segments of the BART system, service quality could be further improved due to further reduction in run times. This could allow additional decreases in peak car requirements.

Load Factors

Required capacity is determined by accommodating projected peak period passengers at maximum screenlines at policy load factors. Maximum screenlines are points on each route where the largest number of passengers travel between two adjacent stations. The service plans in this SRTP are based on maintaining acceptable peak period load factor conditions on all peak trains. Transbay load factors are targeted to average 1.40 or less during peak hour operations, 1.20 or less during the three hour peak period, and 1.00 or less during off-peak service.

Modular Train Sizing

Currently, BART uses a modular operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. With modular sizing, BART sizes trains on a *5/10* and *4/8* basis for transbay service and on a *3/6/9* basis for the Richmond-Fremont East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a ten-car train in half to form two five-car trains, or breaking a four-car train from an eight-car train. On the East Bay route, nine-car trains can be split up into combinations of three- and six-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

In the future, a slightly modified, semi-modular operating plan will be employed. The effective operating result of the change is that, by fitting train sizes more closely to rider loadings, peak revenue vehicle demand will be reduced. The essential conceptual difference from previous,

modular operating plans is that instead of operating trains of only two lengths on a given route, one train size exactly half the length of the other, additional train lengths are used on some routes. The vehicle demand reduction can be accomplished without significant changes in passenger load factors. The only possible detriments of the change are that slightly more train operator time and expense may be required by the marginally more complex operations. The semi-modular plan reduces peak vehicle demand between 11 and 19 cars, compared with a modular plan, depending on which future year is considered.

Captive Fleet Program

BART's *Captive Fleet Program*, which assigns individual cars to a specific maintenance shop, has helped improve vehicle reliability. Accordingly, the service plans presented in this document return the cars to the same yard from which they were dispatched earlier in the day.

Car Requirements

The *Service Planning Model* produces the numerical elements of the Fleet Management Plan, including online car requirements, operating spares, number of cars in maintenance and the number of control cars required. Car requirements are determined based on the need to carry patronage without exceeding load factor standards, subject to operational constraints such as modular train sizing. The number of cars in maintenance is determined from the car hours to be operated and the projected age and rehabilitation status of the fleet. The minimum number of control cars needed is determined based on the maximum train count for each route and the requirement to resize trains from peak service train lengths to midday service lengths.

As shown in Figure 3-2, BART's online car requirements are forecast to increase from 487 currently to 537 during the opening of the BART-SFO Extension, to 550 by FY10, the last year of this planning document. Based on the assumptions used in this forecast, as discussed below and shown in Figure 3-2, BART anticipates having sufficient vehicles to meet projected demand.

Maintenance Requirements

Maintenance is performed seven days a week, three shifts a day at each of BART's four shops. During FY99, BART had an average of 103 cars not available for service at 4 a.m., due to preventative and unscheduled maintenance. The A-and B-Car Renovation Program will reduce the number of incidents requiring maintenance and the capital investment programmed for BART maintenance shops (discussed in the FY00 CIP) will reduce downtime per incident, thus increasing the number of cars available for service. With the implementation of these improvements, the number of cars in for maintenance during the SRTP planning period is anticipated to decrease from 103 to 64.

Yard Logistics Cars

BART allocates a car to each of the Concord, Richmond, Hayward and Daly City maintenance yards for logistical moves in assembling and disassembling trains and moving out-of-service vehicles. Accordingly, four cars have been carried forward throughout the planning period for this purpose.

A- and B-Car Renovation Program

Note that, through FY03, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. Once this program is completed in

December 2002, the 36 cars will no longer be rotated out the fleet and will be available to meet increased service needs.

Ready Reserve Cars

Ready reserve cars are used to form trains to be placed in stand-by mode. In the event that operational problems occur, such as a scheduled train being removed from service, a ready reserve train can be dispatched in the empty train slot to maintain scheduled headways and merging. An eight-car ready reserve train is stationed in each of BART's four yards. Service plans presented in this SRTP assume that ready reserve vehicles are to be used in revenue service when car deficits arise, such as when 36 vehicles are out for A- and B- car renovation, or in the event that the planned reduction of cars in maintenance is not achieved.

ADA PARATRANSIT SERVICE PLAN

BART fulfills its ADA paratransit obligation through a variety of agreements with other transit operators and through participation in the East Bay Paratransit Consortium (EBPC), consisting of BART and AC Transit. By agreement, in the service area of the EBPC, BART and AC Transit jointly administer paratransit service through a contractor. BART assumes 31% and AC Transit 69% of the costs based on their proportionate areas of responsibility. In San Francisco, BART has entered a Memorandum of Understanding (MOU) with Muni whereby Muni provides service to meet BART's obligation and BART reimburses Muni for 8.8% of the paratransit service to all San Francisco riders. Elsewhere, agreements provide for the local operators to receive California Transportation Development Act (TDA) funding as payment for providing for BART's obligation within the 0.75 mile radius of the stations. The local providers with which BART has agreements are: County Connection, TriDelta, WestCAT and LAVTA.

The data below summarize BART's share of anticipated annual ridership during FY00.

SERVICE AREA	RIDERSHIP
East Bay Paratransit Consortium (31% of the program total)	190,000
San Francisco Muni (8.8% of the program total)	98,000
Contra Costa (not including service provided by Fixed Route Operators)	40,000
Other East Bay service	6,500
TOTAL ANNUAL RIDERSHIP	**334,500**

Chapter 4 FISCAL YEAR FORECAST AND FINANCIAL PLAN

BART's SRTP financial plan for FY00 through FY10 focuses on the fiscal requirements for providing service as described in Chapter 3. The financial plan was developed in conformance with the Metropolitan Transportation Commission's guidelines for preparing SRTPs. Key guidelines specify that SRTP's be financially constrained and balanced, and that they include the MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. Underlying assumptions upon which the SRTP forecast is based are also discussed.

The FY00 Operating Budget is the foundation for the ten year projections and is presented first. Following the FY00 Operating Budget is a discussion of the principles used to develop the District's financial forecasts for FY01 through FY10.

It should be noted that the following financial plan includes the impact of the Colma and BART-SFO Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996, and the BART-SamTrans-MTC Memorandum of Understanding dated March 11, 1999. Analysis indicates that the implementation of the BART-SFO Extension, in accordance with the terms of these documents, will not negatively impact the District's financial capacity to operate and maintain its existing system.

FOUNDATION OF THE SRTP FINANCIAL PLAN

The foundation and starting point for the SRTP ten-year financial plan is BART's budget for FY00, the operating portion of which is summarized in Figure 4-1. The FY00 Operating Budget funds BART's rail service, ADA paratransit service, bond debt service for systemwide renovation, and other needed allocations. The budget includes $365.7 million in operating revenue and financial assistance, balancing an equal amount of operating expenses, debt service, and capital allocations. BART's FY00 Operating Budget also provides funding to respond to the following key areas of emphasis drawn from the Strategic Plan and the 1998 Customer Satisfaction Survey:

- The BART Customer Experience
- Building Partnerships for Support
- Transit Travel Demand
- Land Use and Quality of Life
- People of BART
- Physical Infrastructure
- Financial Health

The FY00 Operating Budget

The FY00 Operating Budget continues, in the spirit of prior year District budgets, with an emphasis on cost control. This commitment is reflected in the fact that FY00 expenses are expected to increase by only 2.4% above the adopted FY99 Operating Budget.

On the revenue side, the FY00 Operating Budget assumes that ridership grows by 4.3% over the FY99 adopted budget level. With cost growth limited to 2.4% and ridership increasing by 4.3%, the rail operating cost per passenger mile is projected to decrease in FY00 from 27.7¢ to 27.6¢.

The FY00 Operating Budget assumes 4.9% sales tax growth over FY99 actual receipts. The FY00 Operating Budget also assumes 5.3% growth for property tax revenues relative to the FY99 actual receipts. The FY00 Operating Budget continues to deliver on the promise not to use any of the proceeds from the Board adopted fare increases to balance the core system's financial requirements. The budget allocates the fare increase proceeds to fund BART's system renovation bond debt service, the ADA paratransit service deficit, and rail extensions operations.

Figure 4 – 1

FY00 ADOPTED OPERATING BUDGET

(All figures in thousands of dollars)

REVENUE	
Net Rail Passenger Revenue	174,500.0
ADA Paratransit Revenue	500.0
Total Net Passenger Revenue	**175,000.0**
Interest Revenue	7,500.0
Other Operating Revenue	8,083.5
Subtotal Non-Fare Revenue	**15,583.5**
Total Operating Revenue	**190,583.5**
EXPENSE	
Net Labor	221,191.5
Express Bus Service	2,309.0
Shuttle Service	105.0
Purchased Transportation	3,184.6
ADA Service	6,430.0
Power, Traction & Station	18,000.0
Other Non-Labor	56,132.1
Total Operating Expense	**307,352.2**
OPERATING DEFICIT	**(116,768.7)**
FINANCIAL ASSISTANCE	
Sales Tax	159,165.0
Property Tax	15,200.0
State Transit Assistance (STA)	0.0
Transportation Development Act (TDA)	703.7
Total Financial Assistance	**175,068.7**
DEBT SERVICE & ALLOCATIONS	
Debt Service Allocations	(52,700.0)
PERS Operating Reserve Allocation	3,200.0
Capital & Other Allocations	(8,800.0)
Total Debt Service & Allocations	**(58,300.0)**
FINANCIAL RESULT	**0.0**

FY00 Operating Revenue

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Net Passenger Revenue

Net passenger revenue for FY00 is budgeted at $175 million, and is 3.7% higher than FY99's budgeted revenue of $168.7 million. This gain reflects increased ridership witnessed, in large part, during FY99 and an adjustment to account for the leap year and Christmas Day and New Year's Day occurring on Saturdays. ADA paratransit service passenger revenue is budgeted at $0.5 million in FY00.

Non-Fare Revenue

Revenue from sources other than passenger fares includes interest income on operating fund balances. This line item is budgeted at $7.5 million in FY00. Other non-fare revenue line items include fiber optic joint development agreements, pay telephones, concessions, advertising, rental and lease agreements, parking collections (at Lake Merritt Station and special events at Coliseum Station), fines, and forfeitures. Revenue from these sources is budgeted at $8.1 million.

FY00 Operating Expense

Total operating expense for FY00 is budgeted at $307.4 million, 2.4% above FY99's budgeted expenses of $300.3 million.

Labor Expense and Staffing

Labor expense, which constitutes approximately 72.0% of BART's operating budget, is set to rise from $215.7 million in the FY99 Budget to $221.2 million in FY00. This increase is primarily attributable to contractual 4.0% wage increases for all five BART unions and 3.0% wage increases for non-represented staff, plus maintenance and some improvements to benefits for all bargaining units. The operating budget headcount is set to rise by 36 positions to respond to the previously mentioned focus areas of the Strategic Plan and Customer Satisfaction Survey. Total operating staffing is budgeted at 3,057 heads. These increases in unit labor costs and staffing are partially offset by an actuarially based reduction in the District's contribution to the Public Employees Retirement System (PERS).

Feeder Bus and Shuttle Bus Service Expense

BART is scheduled to pay the local operators providing feeder service in its former BART Express Bus corridors $2.3 million in FY00 per the regional cost sharing agreement. At a FY00 expense of $0.1 million, BART continues to fund a portion of the AirBART shuttle service to the Oakland Airport.

ADA Paratransit Service Expense

ADA paratransit services are set to be $6.4 million in FY00 based on updated regional paratransit service forecasts.

Purchased Transportation Expense

The Muni Transfer payment expense is a reimbursement to Muni for providing feeder bus service to BART stations in San Francisco. The current agreement, which governs this reimbursement, ties this payment to the growth in sales tax. This expense amounted to $2.1 million in FY99, and is budgeted at $2.2 million in FY00.

Ridership projections indicate that approximately 3.8 million trips will either originate or end at the Colma Station during FY00, generating $8.2 million in net rail passenger revenue. After taking into account both riders diverted from the Daly City Station and net Colma operating expenses per the BART-SamTrans Comprehensive Agreement, the FY00 Operating Budget projects that $1.0 million in net operating revenues will be returned to SamTrans.

Power Expense

Station and traction power expense (including lease costs) constitute approximately 5.9% of the District's operating budget. Power expense is expected to decline 13.2%, from FY99's budgeted expense of $20.7 million to $18.0 million in FY00. This FY00 power expense savings is based on the combination of a favorable ruling from the Federal Energy Regulatory Commission requiring Pacific Gas & Electric to deliver federal power to BART at a lower costs and the decision to purchase (and not lease) the power substations which serve the Pittsburg/Bay Point and Dublin/Pleasanton stations. Actual power expense for FY99 came in at $16.6 million.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $56.1 million in FY00, compared to the FY99 budgeted expense of $51.8 million. The main uses of the increased funding in this expense category will be materials for the maintenance and improvement of service, a 3.0% inflation adjustment, inventory control improvements, training and employee support, station area and capital program planning, customer outreach, marketing, and polling.

FY00 Financial Assistance

The District's FY00 Operating Budget includes $175.1 million from all sources of financial assistance; 6.0% over FY99's budgeted financial assistance of $165.2 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75.0% of this amount, with the remaining 25.0% shared by Muni and AC Transit. The FY00 budget of $159.2 million for sales tax financial assistance reflects 5.6% growth over FY99 budgeted generations of $150.7 million. Actual sales tax revenues for FY99 came in slightly higher, at $151.8 million.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three District counties to cover operating expenses. The FY00 Operating Budget sets property tax revenue at $15.2 million, 5.3% higher than FY99's actual collection of $14.4 million.

State Transportation Assistance (STA) / Transportation Development Act (TDA)

As part of its agreement with local operators to take over BART express bus service, BART will not be claiming the bulk of its STA and TDA financial assistance apportionment. The MTC's FY00 Proposed Apportionment of regional assistance funds does, however, include $0.7 million in Alameda County TDA Article 4.5 funds, which BART may claim to fund its operating expenses.

FY00 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

Sales Tax Revenue Bond Debt Service

At the beginning of FY00, BART will have $74.1 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $11.4 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $102.6 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. In addition, $348.5 million in principal will remain from a March 1998 sale and refunding. The FY00 debt service costs associated with these prior year bond sales will be $40.9 million.

The FY00 Operating Budget anticipates the sale of approximately $142 million in additional bonds for System Renovation and $24.6 million in BART-SFO Extension Capital Reserve Account (CAPRA) bonds. The $10 million in annual debt service required for the former bond issue will be paid from sales tax revenues and the $1.8 million annual debt service on the CAPRA bonds will be paid from the current surcharge on trips taken to and from the Daly City Station.

PERS Operating Reserve Allocation

The FY00 Operating Budget anticipates a special, one-time "reverse allocation" of $3.2 million from reserves to the Operating Budget in July 1999. During FY96 and FY97, the District set aside a total of $3.2 million in anticipation of the restart of employer PERS pension payments. To date, this reserve remains unused. Since PERS has now informed the District that no further employer payments will be required for some indeterminate number of years, there is no longer a need for this $3.2 million reserve.

Capital Program Allocations

In line with the Capital Improvement Program, the FY00 Operating Budget projects an $8.8 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above.

FY00 Financial Result and Indicators

The District's FY00 Operating Budget is balanced, with sources of income equal to expense. Budgeted financial performance is favorable relative to levels achieved in prior years, and reflects efforts to contain costs and improve productivity for BART's core operations.

Farebox Ratios

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations this ratio is budgeted to go from 58% in FY99 to 59% in FY00. ADA

paratransit service is forecast to have a 8% farebox ratio. The systemwide farebox ratio for all modes is budgeted to be 57% in FY00, increasing from FY99's 56%.

Operating Ratio

The system operating ratio is defined as total operating revenue divided by total operating expenses. Increased non-passenger operating revenue collections due to fiber optic lease agreements in FY00 is budgeted to result in a 62% operating ratio, which compares favorably to the 61% operating ratio for FY99.

Rail Cost per Passenger Mile

BART's rail cost per passenger mile was budgeted at 27.7¢ for FY99. The FY00 Budget calls for this measure to decrease to 27.6¢ per passenger mile. This improvement is related to rail ridership and is budgeted to increase at a slightly higher rate than rail operating expenses.

FISCAL PLANNING PRINCIPLES AND NEEDS

As presented in the preceding sections, BART's Operating Budget for FY00 is the foundation for the SRTP financial plan for fiscal years 2001 through 2010. The discussion below turns to the principles, which guided the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles for Developing the Financial Plan

BART's financial plan for fiscal years 2001 through 2010 was developed in conformance with the MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to the MTC's forecasts for regional financial assistance and consumer price index (CPI) growth. Accordingly, BART's financial plan is predicated on the following principles:

- **The forecast for passenger revenue should be based on ridership projections, which are derived from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions.** The forecast for passenger revenue begins with BART's projection for existing system ridership, which is, in turn, based on the most recent ABAG and MTC data available. This basis is supplemented by an assessment of current conditions and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for the BART-SFO Extension, which are identified in adopted environmental documentation. *The SRTP financial plan assumes that fare levels are maintained at their current rates.*

- **The forecast for non-fare revenue should be realistic and achievable.** The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at an annual 3.0% CPI rate for the entire SRTP planning period.

- **The forecast of expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity.** The forecast of expense was developed using BART's detailed Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 3. Other expense items include required debt service, and allocations to cover portions of BART's capital program. All unit costs are assumed to grow by the rates included in executed agreements or by a 3.0% annual CPI factor where no agreements apply.

- **The forecasts for regional sources of financial assistance should include the MTC's projections.** The MTC's long term forecast for annual sales tax growth in the three BART counties is 5.4% through FY05 and 5.1% annual growth thereafter.

- **The forecasts for other sources of financial assistance should be conservatively projected and based on historical data.** The forecast for property tax is based upon 4.0% annual growth, based on the long term average growth rate for this revenue source.

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income. Within this financial framework are key fiscal needs, which influence this SRTP's financial plan. These fiscal needs are discussed in the following section.

BART's Fiscal Needs

BART's key fiscal needs in the current SRTP timeframe are well documented and have been identified in prior SRTPs and CIPs, the District's budget pamphlets for FY99 and FY00, the Strategic Plan, as well as in other reports. All of the District's key fiscal needs relate to the fact that BART is both an aging and growing system. The key fiscal needs stem from the requirement to provide additional funds for system renovation and extensions operations, and comply with federal ADA paratransit service requirements.

In May 1994, the District and the MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement calls for the MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. The SRTP and CIP, in fact, propose generating substantially more than $200.5 million, in order to fund additional essential capital projects beyond the scope of the agreement with the MTC. The strategy for raising the funds needed for system renovation included a series of three planned bond issues (the last bond sale is scheduled before the end of 1999) and the fare increase package adopted in January 1995. The debt service requirement for these bonds is covered by this fare increase package.

In addition to the above fiscal obligations is the projected need for allocations of $93.6 million from the District's Operating Budget to support BART's ten-year Capital Program (refer to the FY00 CIP). These allocations consist of $49 million remaining from the FY98 SRTP's program of $76 million in capital allocations for system renovation, as well as additional allocations of $44.6 million for outyear continuous renovation needs.

Another key fiscal consideration is ADA paratransit service. In January 1997, BART came into full ADA compliance per the federal mandate. As discussed above, the District's FY00 Budget provides for full ADA paratransit service support, budgeted at $6.4 million.

BASE FINANCIAL FORECAST AND ASSUMPTIONS

The following sections present individual elements contained in BART's base financial forecast. As shown in Figure 4-2, the base forecast builds upon the District's FY00 Operating Budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast and the underlying assumptions for its elements are discussed below.

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The basis for projecting rail passenger revenue is the rail ridership forecast presented in Chapter 3 and earlier in this chapter. Gross fare revenue is then reduced by BART's systemwide discount rate to account for the use of discounted tickets and passes. This step converts the forecast of gross fare revenue to a net revenue, which represents the actual passenger fares BART is forecast to receive. Based on the methodology described above, rail passenger revenue is projected to increase, from $177.0 million in FY01, to $251.5 million in FY10.

Trips, which involve San Mateo County station use, are identified as part of a special analysis to determine the level of San Mateo County surcharges included in Net Rail Passenger Revenue. This update of the SRTP includes the provisions in regard to these surcharges from the following agreements executed for the implementation of the BART-SFO Extension: the BART-SamTrans Comprehensive Agreement (June 1996), the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (June 1997), the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997), and the BART-SamTrans-MTC Memorandum of Understanding (March 1999).

SamTrans will be responsible for paying any net operating deficit on the BART-SFO Extension to San Francisco International Airport. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma Stations) on the extension's four stations. These surcharges are projected to raise sufficient revenue to cover operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFO) will require BART to pay $2.5 million in annual rent to SFO. This rental payment is assumed to be funded from additional fare surcharges at all six of BART's San Mateo County stations. The Agreement also requires that airline employees using the SFO Station receive a 25% discount off their fares. The proceeds from this additional surcharge are included in the Net Rail Passenger Revenue line in Figure 4-2.

San Francisco International Airport Premium Surcharges

With the initiation of revenue service on the BART-SFO Extension, the District will implement an additional $1.50 surcharge on all trips using the SFO Station. Per the terms of the FFGA with the

Figure 4-2
FY00 Draft SRTP Financial Forecast

All Dollar Figures are in Millions

	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
REVENUE											
Net Rail Passenger Revenue	174.5	177.0	194.1	217.6	226.2	236.0	239.1	242.4	244.8	248.1	251.5
SFIA $1.50 Premium Surcharge Revenue	0.0	0.0	1.7	4.0	4.8	5.6	5.7	5.7	5.8	5.9	6.0
ADA Service Passenger Revenue	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Total Net Passenger Revenue	175.0	177.5	196.3	222.3	231.6	242.1	245.4	248.8	251.3	254.8	258.2
Interest Revenue	7.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Fiber Optic Revenue	2.7	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Other Operating Revenue	5.3	5.7	5.9	6.1	6.3	6.4	6.6	6.8	7.0	7.3	7.5
Subtotal Non-Fare Revenue	15.6	17.8	18.0	18.2	18.4	18.5	18.7	18.9	19.1	19.4	19.6
Total Operating Revenue	190.6	195.2	214.3	240.4	249.9	260.7	264.2	267.7	270.5	274.1	277.8
EXPENSE											
Net Labor	221.2	230.2	251.5	265.4	275.9	289.9	301.8	313.8	324.4	335.1	346.1
Traction/Station Power, with lease costs	18.0	18.0	20.5	22.5	23.1	23.7	24.4	25.1	26.1	26.9	27.4
SFIA Rent	0.0	0.0	1.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	56.1	56.8	60.6	65.5	67.4	70.6	73.1	75.9	78.5	82.1	84.5
Subtotal Net Rail Expense	295.3	305.1	333.8	355.9	368.9	386.7	401.8	417.4	431.5	446.6	460.5
Feeder Bus Service (local op. subsidy)	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Shuttle Service	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Purchased Transportation (MUNI)	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.5	3.6
Purchased Transportation (SamTrans)	1.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.4	6.4	7.0	7.5	7.8	8.0	8.2	8.5	8.7	9.0	9.3
Subtotal Non-Rail Expense	12.0	12.2	12.4	12.7	13.1	13.5	13.8	14.2	14.7	15.1	15.5
Total Operating Expense	307.4	317.2	346.2	368.6	382.0	400.2	415.6	431.6	446.1	461.7	476.0
OPERATING DEFICIT	(116.8)	(122.0)	(132.0)	(128.1)	(132.0)	(139.5)	(151.4)	(163.9)	(175.7)	(187.5)	(198.2)
FINANCIAL ASSISTANCE											
Sales Tax Proceeds (BART 75%)	159.2	167.8	176.8	186.4	196.4	207.1	217.1	228.5	240.3	252.5	265.2
Property Tax Proceeds	15.2	15.8	16.4	17.1	17.8	18.5	19.2	20.0	20.8	21.6	22.5
STA & TDA Assist for ADA & Gen Op	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total Financial Assistance	175.1	184.4	194.1	204.3	215.0	226.4	237.2	249.3	261.9	274.9	288.5
DEBT SERVICE & ALLOCATIONS											
Prior Year Sales Tax Rev. Bonds	(40.9)	(40.9)	(41.0)	(41.2)	(41.3)	(41.4)	(41.6)	(41.7)	(41.9)	(42.0)	(42.0)
Future System Renovation Bonds	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)	(10.0)
SF CAPRA Debt Service	(1.8)	(1.8)	(3.6)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)	(5.3)
BART-SamTrans Allocation to E. Bay Ext.	0.0	0.0	(2.4)	(10.4)	(15.7)	(20.4)	(19.9)	(19.4)	(18.8)	(17.8)	(17.2)
Capitol Program Allocations	(8.8)	(10.6)	(5.7)	(9.2)	(9.7)	(8.9)	(8.8)	(8.8)	(10.2)	(12.3)	(15.7)
PERS Reserve Account	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt Service & Allocations	(58.3)	(63.4)	(62.8)	(76.1)	(82.0)	(86.1)	(85.6)	(85.3)	(86.2)	(87.4)	(90.3)
ANNUAL FINANCIAL RESULT	(0.0)	(1.0)	(0.7)	0.0	0.9	0.8	0.1	0.1	0.0	0.0	(0.0)
CUMULATIVE BALANCE	(0.0)	(1.0)	(1.7)	(1.7)	(0.7)	0.1	0.1	0.2	0.2	0.2	0.2
PATRONAGE											
Systemwide Average Weekday Trips (000	282.7	287.4	310.4	338.7	351.5	363.0	368.1	373.2	378.4	383.7	389.0
Systemwide Total Annual Trips (000's)	82,800.0	83,931.3	90,014.2	98,557.7	101,947.5	106,009.3	107,480.9	108,974.1	110,110.8	111,642.8	113,197.2

FTA, the incremental revenues associated with these surcharges will be pledged towards a capital reserve account (CAPRA) dedicated to funding cost overruns on the BART-SFO Extension.

The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, is projected to result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits. The incremental revenue associated with this surcharge would, however, be nearly $4 million in FY03, growing to $6.0 million by FY10.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with other Bay Area transit operators. After the first full year of ADA compliance, FY98, ADA paratransit passenger revenue forecasts assume that ridership for this service grows at constant 8% of ADA paratransit costs. BART's forecast for ADA paratransit passenger revenue is $0.5 million in FY00, growing to $0.7 million by FY10.

Net Passenger Revenue

BART's total net passenger revenue, consisting of the revenue from the above sources is forecast to grow from $177.5 million in FY01 to $258.2 million in FY10.

Operating Revenue from Sources Other Than Fares

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the 3.0% annual CPI growth rates, from $5.7 million in FY01 to $7.5 million in FY10. Additional operating revenue is generated by telecommunications fiber optics agreements. Revenue for current contracts is anticipated to yield at least $3.1 million annually between FY01 and FY10 and could generate significantly more revenue. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $9 million annually between FY01 and FY10.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's total operating revenue is projected to grow from $195.2 million in FY01 to $277.8 million in FY10.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY00 Operating Budget, with adjustments made to reflect expense reduction measures, non-linear expense items, and anticipated revisions to unit costs.

Inputs to the cost model reflect the projected service levels for rail operations, as discussed in Chapter 3. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Number of routes and route miles of track
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles/hours
- Annual train hours

Additionally, the model input includes assumptions for the CPI. The FY00 SRTP assumes a 3.0% annual CPI growth rate.

Staffing and Labor Expense

Labor expense growth reflects the annual wage, salary, and benefit increases included in the FY98 through FY01 adopted labor agreements. Unit labor costs after FY01 are projected to grow by the 3.0% inflation rate. In addition, labor expense growth reflects the increases in staff needed for expanding system operations for extensions. The largest increase in staffing is forecast to occur in FY02, when BART-SFO Extension service is targeted to begin. Labor expense is forecast to grow from $230.2 million in FY01 to $346.1 million in FY10. (These figures assume that the employer contributions to the PERS retirement system that were suspended effective FY00 resume in FY05 at roughly one-third to one-half of their pre-FY00 contribution rate).

Traction and Station Power Expense

Future power expense is a model output, and is forecast largely on the basis of car miles and number of stations. The basic cost per unit of power is assumed to be flat from FY00 through FY01, per a tentative five year PG&E rate freeze. The projected amount of power consumption is scheduled to increase with the opening of the BART-SFO Extension in FY02. From FY03 to FY10, the basic cost per unit of power is assumed to grow at 3.0% annually.

San Francisco International Airport (SFO) Rental Payment

As discussed in the Operating Revenue Forecast section, it is assumed that BART will implement a modest surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to SFO. This payment will begin with the commencement of revenue service and will remain at $2.5 million per year over a 50-year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $56.8 million in FY01 to $84.5 million in FY10.

Feeder Bus Service (Local Operator Subsidy) Expense

In accordance with the negotiations with the MTC and the local bus operators serving BART's current express bus corridors, the FY00 SRTP assumes that, in lieu of contracting out directly for this service, BART will simply make a $2.5 million annual subsidy payment to these operators beginning in FY01 and continuing through FY10. This payment will help compensate these local bus operators for the net operating losses associated with taking over service in these corridors.

Shuttle Bus Expense

BART's expense for shuttle bus service includes payments to the Port of Oakland in support of Oakland Air-BART, and temporary shuttles such as those needed for bus bridges due to cessation of rail service. This expense is forecast to grow at 3.0% annually through FY10 and amounts to approximately $0.1 million in each fiscal year from FY01 through FY10.

Purchased Transportation (Muni)

The formula, which defines the reimbursement for providing feeder service to BART from MUNI, is tied to sales tax growth. Purchased transportation expenses for Muni transfers are forecast to grow from $2.3 million in FY01 to $3.6 million in FY10.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A net operating revenue payment of $1.0 million is budgeted for FY00. This amount is projected to decrease to $0.8 million in FY01 as marginal costs grow by inflation and fare revenue growth levels out. Payments to SamTrans would then decline to $0.4 million in FY02 since the BART-SFO Extension is targeted to open half way through that fiscal year. Per the BART-SamTrans-MTC MOU dated March 11, 1999, all of the first $145 million in net operating revenues on the BART-SFO Extension (including the Colma Station) are directed not towards SamTrans, but towards meeting obligations to BART's Eastbay Extensions program.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY10. ADA expenses are assumed to increase by the combined growth in CPI inflation and the number of stations in the BART system. On this basis, ADA paratransit expense is forecast to grow from $6.4 million in FY01 to $9.3 million in FY10.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $317.2 million in FY01 growing, by the combination of system expansion and CPI growth, to $476.0 million in FY10.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as were identified in the FY00 Operating Budget portion of this chapter. The forecast for financial assistance through FY10 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The long term forecast for annual sales tax growth is 5.4% for FY01 through FY05, and 5.1% thereafter. This forecast is based on the MTC's February 1999 regional growth rate projections for sales tax revenue in the three-county BART district and it approximates the District's long term sales tax growth rate. With these growth factors the amounts collected are projected to be $167.8 million in FY01, and growing to $265.2 million in FY10.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY01 through FY10. Financial assistance from property taxes is forecast to be $15.8 million in FY01, growing to $22.5 million in FY10.

State Transportation Assistance (STA) & Transportation Development Act (TDA) Financial Assistance

Although STA & TDA assistance is tied to sales tax collections, it tends to be uneven in its annual generations. This small amount of assistance is, consequently, assumed to average $0.8 million annually between FY01 and FY10. This assistance is programmed for general operating expenses as well as BART's ADA paratransit program.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $184.4 million in FY01 to $288.5 million in FY10.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

Prior Year Sales Tax Revenue Bond Debt Service

At the beginning of FY01, BART will have $65.9 million in principal outstanding from its 1990 sale of $158.5 million in sales tax revenue bonds, $9.5 million in principal outstanding from its 1991 sale of $56 million in sales tax revenue bonds, and $99.3 million outstanding from its 1995 sale of $135 million in sales tax revenue bonds. In addition, in March 1998, BART completed a sale and refunding of $348.5 million in sales tax revenue bonds. The combined debt service costs of these prior year bond sales will be $40.9 million in FY01 and $42.0 million in FY10.

Future System Renovation Bond Debt Service

The District's contribution to the cost of its System Renovation program is being made, in large part, through the sale of sales tax revenue bonds. To date $264 million in bond proceeds have been contributed to the program. An additional bond sale of approximately $142 million is planned for FY00. The annual debt service costs of this future bond sale are projected to be $10.0 million.

SFO Capital Reserve Account (CAPRA)

The FFGA for the BART-SFO Extension includes a section which requires BART to set aside funds in a CAPRA dedicated towards paying for potential ineligible costs on the BART-SFO Extension. The CAPRA set aside consists of two components: direct allocations from the operating budget and the sale of revenue bonds backed by fare surcharges. Through FY99 $7.5 million in direct capital allocations were made to this CAPRA. Beginning in FY00, the District will begin paying the debt service on $71.7 million in net bond proceeds which are backed by the revenue generated from the 76¢ surcharge collected at Daly City Station and the additional $1.50 surcharge on all trips using the SFO Station. This $71.7 million in total bond proceeds would have an annual debt service requirement of $1.8 million in both FY00 and FY01 on the initial issue of $24.6 million. By FY03, the annual debt service will rise to $5.3 million given the FY02 sale of the final $47.1 million increment of CAPRA bonds.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY02 with the opening of the BART-SFO Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. In FY05 – the fourth year of operations – the projected surplus is expected to reach $20 million. These surpluses could decline slightly after FY05 as fare revenue growth is outpaced by the growth in operating costs attributed to the BART-SFO Extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions until all of SamTrans $145 million remaining buy-in commitment is liquidated. Annual surpluses thereafter will be used to repay loans made to the BART-SFO Extension per the BART-SamTrans-MTC Memorandum of Understanding.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $52.9 million between FY01 and FY06 to support the District's Capital Improvement Program (CIP) fiscal needs. (Of this $52.9 million, $49 million is the amount remaining from the FY98 SRTP program of $76 million in capital allocations). Without these allocations, critically needed projects would have to be delayed. As shown in Figure 4-2, annual capital allocations in the range of $6 million to $10 million are provided in FY01 through FY06. Outyear allocations totaling $47 million are programmed in FY07 through FY10 to fund ongoing capital equipment needs.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $63.4 million in FY01. Annual debt service and allocations are projected to grow significantly in FY03 when the BART-SFO Extension net operating revenue allocations to the Eastbay Extension start reaching their peak. By FY10, debt service and allocations reach a high of $90.3 million.

Cost Containment and Revenue Enhancements: Progress Report

As discussed earlier in this chapter, the District has recently made major progress in both cost containment and revenue enhancement. On the cost side of the District's balance sheet, BART is currently negotiating agreements with its power providers that have already generated significant annual savings. In addition, BART and PERS have determined that the District will be able to reduce its contributions towards meeting projected pension obligations. Lastly, BART has enjoyed favorable year-end operating budget balances which have enabled the District to "buy down" a portion of its multi-year obligation to its Track 1 Capital Program.

As far as revenue enhancement is concerned, the strong ridership growth seen over the last year has resulted in a higher ten year forecast for passenger revenue. Additional revenue is also projected over the SRTP planning period due to recently executed contracts with advertisers and fiber optic providers. Financial assistance revenues have also been adjusted upward to recognize the recent strength in property tax collections. As a result of these developments, the FY00 SRTP financial plan will, in contrast to prior years, show no need for additional cost containment and revenue enhancement measures.

Strategies to Generate Additional Cost Containment & Revenue Enhancement

The base financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices. The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. This fact is underscored in Figure 4-3, which identifies actual fiscal year expense for fiscal years 1986 through 1998. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs, which were published five years earlier.

As indicated in Figure 4-3, the District has a record of consistently managing its expenses to lower actual budgeted levels in any given fiscal year relative to the amounts forecast five years earlier for the same fiscal year. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations.

Figure 4 - 3

ANNUAL BUDGET & SRTP FORECASTS vs. ACTUAL EXPENSE

(Dollar figures in millions)

Fiscal Year	Actual Expense	ADOPTED BUDGET, 1-YEAR LOOK Forecast	% vs Actual	SRTP, 5-YEAR LOOK Forecast	% vs Actual
86	160.9	163.9	1.9%	185.7	15.4%
87	162.2	174.5	7.6%	198.0	22.1%
88	167.8	171.8	2.4%	205.4	22.4%
89	172.2	174.6	1.4%	224.9	30.6%
90	193.0	193.3	0.2%	220.4	14.2%
91	206.6	208.2	0.8%	236.8	14.6%
92	213.7	219.9	2.9%	223.7	4.7%
93	210.4	213.0	1.2%	217.0	3.1%
94	217.4	220.3	1.3%	233.6	7.5%
95	218.3	227.0	4.0%	256.0	17.3%
96	244.3	240.1	-1.7%	297.1	21.6%
97	267.7	269.1	0.5%	319.7	19.4%
98	296.2	288.9	-2.5%	344.9	16.4%
99	294.1	300.3	2.1%	n/a	n/a
Average	—	—	**1.3%**	—	**15.8%**

Notes

The FY86 actual expense, for example, is compared to the corresponding annual budget which is adopted one year earlier.

FY86 actual expense, in this example, is also compared to the SRTP forecast formulated five years earlier.

Variances reflect efforts to contain and/or reduce costs as well as changes in assumptions for extension start dates, fleet size, and CPI.

With the ten year $5.2 billion program (representing Operating Expenses in combination with Debt Service & Allocations) presented in this SRTP's base forecast, every 1% savings realized from conservative planning and budgeting practices translates into a $52 million reduction in total program costs over the ten years. Any annual savings realized over the next ten years could be used to accelerate the implementation of projects included within Track 1 of the Capital Improvement Program (CIP) or to fund certain capital projects included in Track 2 of the CIP and operating programs developed in the Strategic Plan.

In addition to this general cost containment and revenue enhancement approach, it is useful to develop more specific strategies to assure that the District's financial health could withstand economic uncertainties like a downward deviation from the MTC and ABAG forecasts for future population, employment, inflation, and sales tax revenue.

Specific Cost Containment Strategies

1. *Reduced Car Miles:* The FY99 operating budget reflected a reduction of 1.4 million car miles from the prior year's budget due to more aggressive train resizing. Additional future reductions in car miles from train resizing would increase the complexity of operating the system, but could yield additional annual savings.
2. *Staffing Efficiencies:* While the SRTP projects future staffing needs based on a model output, actual additions to staff are made during a rigorous evaluation process which is conducted during the development of the annual operating budget. This process could allow for more streamlined staffing requirements than predicted by the cost model. In addition, new hires for expanded service could be offset by staffing reductions in other areas of BART's operations. For example, while BART was increasing its headcount to staff the five new stations it recently opened, it eliminated 125 other line, administrative, and management positions

Specific Revenue Enhancement Strategies

1. *Joint Development Telecommunications Revenue:* Annual revenues from BART's Agreement with MFS Technologies are included in the SRTP revenue projections only for contracts that have been executed to date. With continued strong interest from new vendors wanting to install fiber optic cables in the BART right-of-way there could be an additional $1 million to $2 million annually from this revenue source.
2. *County Transportation Sales Tax Measures:* While the initial attempt at the Alameda County Measure B half cent sales rollover was not approved at its June 1998 election, there is a possibility that another version of the measure will be approved before the current measure expires in 2002. A later version of the Measure B expenditure plan could include funding for BART's ADA paratransit and capital programs. In addition, there will be opportunities in the future to work with Contra Costa and San Francisco Counties in the development of the expenditure plans for the rollover of their half cent transportation sales taxes.
3. *Passenger Fees:* General fare increases equal to a fraction of the CPI growth over the next ten years should alone be able to raise sufficient revenue to address unanticipated financial challenges. In addition, the imposition of daily charges on a limited number of the District's 42,000 parking spaces could generate a few million dollars per year (net of ridership losses and the cost of administering these charges).

4. *Additional Capital Funds:* BART has generated capital funds from alternative funding programs such as cross border lease transactions and the right of way leasing to fiber optic network providers noted above. BART will continue to pursue alternative funding opportunities in the future.

5. *Bay Bridge Replacement Traffic Impacts:* The eastern span of the Bay Bridge is scheduled to be replaced by 2003. The draft environmental document for this project notes that temporary bypass ramps will be needed during its last two years of construction while the new span is being linked to the Yerba Buena island tunnel and the Oakland touchdown area. While these bypass ramps will maintain the current five lanes of traffic in each direction, regular increases in travel times and bridge congestion could result. The draft environmental document also anticipates complete bridge and lane closures during off-peak periods. An increase in bridge congestion or off-peak bridge and lane closures could lead to an increased demand for transbay BART travel, and the associated increase in BART passenger revenues.

6. *Ballpark Ridership:* The ridership forecast included in this SRTP assumes that BART will carry 3,000 trips per game at the San Francisco Giants' new Pacific Bell Park beginning in April 2000. It also assumes that BART will continue carrying its current level of riders to Oakland Athletics games at the Coliseum. Past performance indicates that there is significant upside potential for the BART ridership to the Coliseum. During the 1990 season, for example, BART carried an average of 12,000 trips to and from Oakland Athletics games. This amount is over twice the 5,000 trips currently generated by these events.

Farebox Ratio

As documented in Figure 4-4, the farebox ratio for rail operations is forecast to start out at 58% in FY01, and grow to 61% in FY05, reflecting the full build up of the ridership and revenue for the BART-SFO Extension. Assuming no fare increases in the SRTP period, the rail operations farebox ratio declines after FY05 to 54% by FY10. The ADA paratransit farebox ratio is forecast to remain at 8% over the 10-year period. The systemwide farebox ratio is forecast to be 56% in FY01, growing to 60% in FY03 before declining to 54% in FY10.

Operating Ratio

The system operating ratio is forecast to be 61% in FY01, increasing to 65% in FY03, and then decreasing to 58% in FY10.

Rail Cost per Passenger Mile

BART's rail cost per passenger mile is projected to be 28.1¢ in FY01. Growth in passenger trips at a rate higher than the growth in rail operating costs helps BART to improve this level of productivity up to FY04, when the rail cost per passenger mile is projected to be 26.7¢. Annual CPI growth in excess of passenger mile growth after FY06 results in these unit costs growing to 30.0¢ by FY10.

Figure 4 – 4
FY00 SRTP FINANCIAL PERFORMANCE INDICATORS
(FY00 Adopted Budget, FY01-FY10 Forecast)

	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10
Farebox Ratios:											
Rail	59%	58%	58%	61%	61%	61%	60%	58%	57%	56%	55%
ADA	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
System	57%	56%	57%	60%	61%	61%	59%	58%	56%	55%	54%
System Operating Ratio	62%	62%	62%	65%	65%	65%	64%	62%	61%	59%	58%
Rail Cost / Passenger Mile	$0.276	$0.281	$0.281	$0.268	$0.267	$0.268	$0.275	$0.282	$0.288	$0.294	$0.300

CONCLUDING REMARKS

As described in this SRTP, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, timely decision making, and effective and efficient management. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

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BART

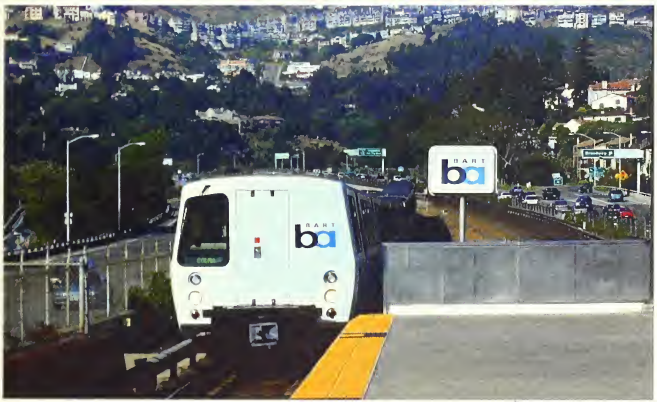
San Francisco Bay Area
Rapid Transit District

FISCAL YEAR 2001

SHORT RANGE TRANSIT PLAN

July 2000 through June 2010

FISCAL YEARS 2001 THROUGH 2010



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FISCAL YEAR 2001

SHORT RANGE TRANSIT PLAN

Fiscal Years 2001 through 2010

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The contents of this report reflect the views of BART, which is responsible for the facts, and accuracy of the data presented herein. The contents do not necessarily reflect the original views or policy of the USDOT. This report does not constitute a standard, specification or regulation, and does not preclude future labor contract negotiations or future BART Board deliberations regarding fares.

All projects discussed are subject to state and federal environmental review as required by law. Specific projects and project funding are subject to approval by the BART Board of Directors. Projects that do not yet satisfy these requirements are proposed projects. This report was researched and prepared by:

Pamela Herhold

With noteworthy assistance from:

BART Division of Financial Planning

Staff throughout the District also provided significant assistance in the form of content and forecast development.

San Francisco Bay Area Rapid Transit District

May 23, 2000

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AATC	Advanced Automatic Train Control
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ADA	Americans With Disabilities Act
AFC	Automatic Fare Collection (equipment)
APTA	American Public Transit Association
BART	(San Francisco) Bay Area Rapid Transit District
CAPRA	Capital Reserve Account
CCJPA	Capitol Corridor Joint Powers Authority
CIP	(BART) Capital Improvement Program
County Connection	Contra Costa County Transit Authority
CPI	Consumer Price Index
EBPC	East Bay Paratransit Consortium
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FY	Fiscal Year (July 1 - June 30 for BART)
LAVTA	Livermore Amador Valley Transit Authority
MOU	Memorandum of Understanding
MTC	Metropolitan Transportation Commission
Muni	(San Francisco) Municipal Railway
OCC	(BART) Operations Control Center
PERS	(California) Public Employees Retirement System
SamTrans	San Mateo County Transit District
SFO	San Francisco International Airport
SRTP	(BART) Short Range Transit Plan
STA	(California) State Transportation Assistance
TDA	(California) Transportation Development Act
TriDelta	Eastern Contra Cost Transit Authority
USDOT	United States Department of Transportation
WestCAT	Western Contra Costa Transit Authority

Foreword

A NOTE FROM THE GENERAL MANAGER

Friends of BART,

Fiscal Year 2000 has been an exciting year for the Bay Area Rapid Transit District. At BART, we have seen our ridership exceed 345,000 trips on PacBell Park opening day. Average weekday ridership rose to almost 328,000 in March – an increase of almost 14% over the prior year. We recognize that this is the result of many factors – from worsening Bay Area congestion to the superlative service that our employees provide our passengers.

While this ridership growth brings with it additional fare revenues, it also creates operational and infrastructural challenges. BART is rising to the occasion. BART staff is working hard to continue to provide exceptional service as more passengers traverse the system. Moreover, staff is developing a comprehensive approach to addressing future capacity constraints on the system. We want to have a plan in place and implementation underway *before* the system hits full capacity.

This *Short Range Transit Plan* and the *Capital Improvement Program*, which is the capital counterpart to the *SRTP*, outline BART's preliminary thoughts and ideas about how we can best continue to serve our existing passengers, while continuing to play a vital role in addressing the Bay Area's transportation needs. Chapter One provides an overview of the BART system, as well as useful information about current service and fares. Chapters Two presents information about BART's operating and financial performance, including the tremendous ridership gain the District has experienced recently. Chapter Three details the ridership forecast and service plan to accommodate the ridership. Chapter Four ties all these components into a ten-year operating financial plan, which continues to contribute substantially to BART's capital program.

We look forward to receiving your thoughtful feedback. Comments can be sent to srtpcip@bart.gov.

Thomas E. Margro
General Manager

Introduction

THE SHORT RANGE TRANSIT PLAN

Developed and prepared in compliance with the Metropolitan Transportation Commission's (MTC) guidelines and principles, BART's FY01 Short Range Transit Plan (SRTP) reflects the District's efforts to provide safe, reliable, and efficient service to the San Francisco Bay Area. This SRTP frames the District's challenges in the coming ten years by focusing on BART's strategic vision, operational requirements and underlying financial plans. The District's Capital Improvement Program supports the planned service and operational needs presented in this SRTP.

The SRTP is divided into four chapters. Chapter One, *Background and Overview*, presents a brief history of the BART District, as well as an overview of the current organization, major capital plant, workforce, rail and paratransit service, and fare structure. Chapter Two, *Current Operating Performance*, describes current ridership and service. Chapter Three, *Planning Forecasts*, describes the ridership forecast and the method for forecasting ridership and service needs and improvements. Chapter Four, *Operating Financial Plan*, focuses on the financial assumptions and requirements of providing the service described in Chapter Three. Lastly, a conclusion and summary of the FY01 Short Range Transit Plan is presented.

CHANGES FROM THE FY00 SRTP

This year's SRTP includes increased emphasis on improving the customer experience and the physical infrastructure of the BART system. The financial forecast reflects the increased ridership and revenue realized in the past year, additional operating expenses to fund service and programs for the riders, and increased allocations to the capital program.

Relationship to Other Documents and Plans

Capital Improvement Program

As the counterpart to the Short Range Transit Plan, the Capital Improvement Program (CIP) identifies all capital projects currently underway or planned for the District over the next ten years. The document is divided into two "tracks." Track One is comprised of projects essential for continued safe and reliable operation of the BART system and for which potential funding sources can reasonably be identified. Track Two includes projects for which the projected near-term levels of funding sources are currently inadequate.

Strategic Plan

The Board adopted BART's Strategic Plan in February 1999. BART's Strategic Plan provides a platform for the decision making and planning processes directing the Short Range Transit Plan and Capital Improvement Program as well as the annual budget. BART's Mission Statement, as defined by the Strategic Plan, is "to provide safe, clean, reliable, and customer-friendly regional public transit in order to increase mobility and accessibility, strengthen community and economic prosperity, and preserve the environment in the Bay Area." This mission guides distinct decision-making and planning efforts.

The strategic planning process will include defining quantifiable Strategic Performance Measures to be used to measure the success of the District's implementation of its Mission Statement and resulting goals and objectives. Potential measures are discussed in greater detail in Chapter Two, under Strategic Performance Indicators.

Planning Studies

As an outgrowth of the Strategic Plan, three inter-related planning studies evaluating a thirty-year time frame are currently underway at BART. These studies will each be conducted in several phases over the next two years. Results, to be reported as each phase is completed, are anticipated to identify the need for investment in additional improvements and enhancements to the BART system beyond the scope of the current CIP.

The Asset Renovation and Replacement Study will inventory all major capital assets of BART and develop a timeline and cost structure for ongoing system reinvestment needs. The scope of the study includes identifying a permanent reinvestment rate necessary to maintain and operate the system safely and reliably, as well as a funding plan and financial strategy to meet the projected needs.

The System Capacity Enhancement Study seeks to identify capacity limitations of components of the system and of the system as a whole, and recommend means of surpassing the constraints. With the rapid growth in passenger trips over the past

few years, ridership levels are rapidly approaching the capacity for which BART was initially designed. Although that limit will not be exceeded in the immediate future, this study is a step in planning for that possibility. Many capacity improvement measures required to increase core system capacity involve long lead times for planning, funding, and construction. The System Capacity Enhancement Study will address short term needs and responses, mid-term issues, and point the way to long-term capacity expansion plans.

The System Expansion Study will identify potential areas for BART service expansion, including infill stations on the existing system and new end-of-line stations. The BART Board of Directors adopted a Policy Framework for System Expansion in November 1999 and directed staff to undertake activities to assist in identification, prioritization, and phasing of system expansion opportunities. These activities include discussing system expansion with various stakeholders, performing a systemwide strategic expansion opportunities assessment, and analyzing institutional and financial arrangements that support system expansion. The outreach effort to BART stakeholders will include both individual discussions and group forums. The opportunities assessment will consider both existing Extension Staging projects as well as other projects that may have significant potential to increase ridership. The analysis of institutional and financial arrangements will identify issues and alternatives if system expansion projects extend BART service past the District boundaries.

All three studies may identify major funding needs to maintain present facilities and equipment, serve rapidly growing ridership demand, or address the transportation needs of currently unserved Bay Area residents. Findings will be incorporated into the next annual update to the SRTP.

Chapter One

BACKGROUND AND OVERVIEW

The San Francisco Bay Area Rapid Transit District (BART) was created by the California State Legislature in 1957, in response to Bay Area growth and transportation needs. In 1962, voter approval of a $792 million general obligation bond issue in San Francisco, Alameda and Contra Costa counties provided the initial funding base and authorization to begin construction of the 71-mile system. BART was the first new rail transit system to be built in the United States in over 60 years and the first rail system to make large-scale use of computer technology.

BART Organization

A Board of nine publicly elected Directors governs the District, each representing the voters in one of nine election districts within the three-county District. The Board meets twice a month to review and take action on motions, resolutions, and projects affecting the governance of the BART District.

BART's Fiscal Year (FY) 2001 Revised Preliminary Operating Budget workforce includes 3,477 full-time equivalent positions, 3,093 of which are for operations and 384 for capital projects. BART's departments are presented in the organization chart in Figure 1-1.

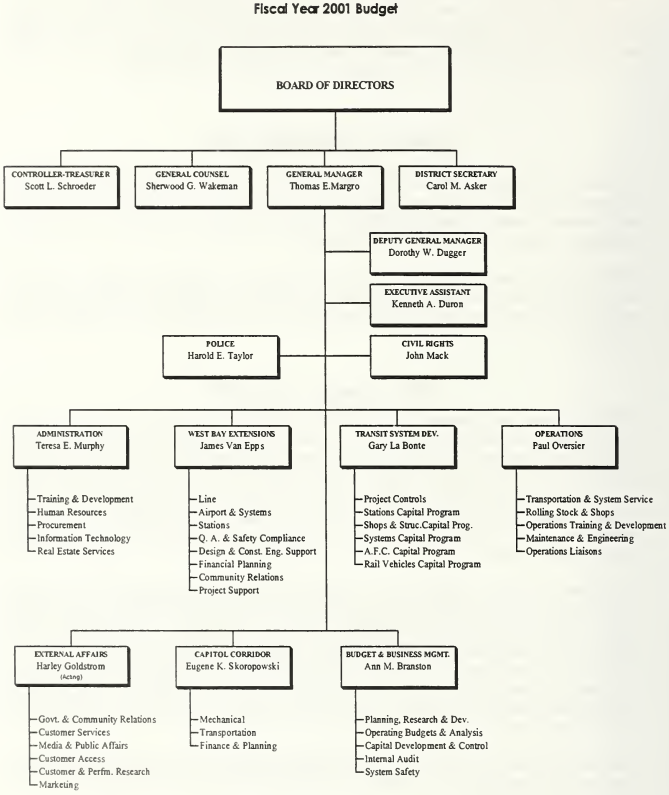
The People of BART

BART's number one resource is its dedicated, hardworking staff. The typical BART employee has been with the District 11.7 years and earns just over $53,000 per year. Seventy-three percent are male, and 27% female. The youngest employee is 19 years old, the oldest is 75, and the overall average age is 46.6. Minority representation on the workforce is high, and representative of the Bay Area population, with 42.5% white, 22.6% black, 20.1% Asian or Pacific Islander, 13.8% Hispanic, and 1.0% American Indian. (The Federal Transit Administration uses these racial categories and category names.)

The District has five employee and collective bargaining agreements representing 89% of the District's workforce. Service Employees International Union Local 790 has 1,694 employee members, the Amalgamated Transit Union Local 1555 has 802 members, the American Federation of State, County and Municipal Employees Local 3993 has 235 members. Two police unions (BART Police Managers Association and the Service Employees International Union, Local 1008, BART Police Officers Association) represent 250 police officers and managers. The remainder of BART staff is non-represented.

The longest employed person was hired July 1, 1966, a full six years before the first revenue train was put into service. Since BART's inception, over 1,000 people have retired from the District.

Figure 1-1 BART Organization Chart



Major Components Of BART's Capital Facilities

The 1962 general obligation bond issue provided funding for BART's core system, which opened for service on September 11, 1972. On opening day, key components of the core system included 71 miles of double-mainline track, three maintenance facilities and associated yards, 450 vehicles (11 of which have been retired from the fleet to date), 33 stations, and an administration and operations control center. Capital improvements made over the past 26 years have added to this inventory base. These additions include 230 more cars, the Daly City Yard and Maintenance Facility, a third mainline track through downtown Oakland, a new central train control computer and six additional stations. Embarcadero Station, an infill station in downtown San Francisco, opened for service in May 1976.

BART's first five extension stations opened for revenue service between 1995 and 1997. These stations serve new markets in Eastern Alameda and Contra Costa counties, as well as further south in San Mateo County.

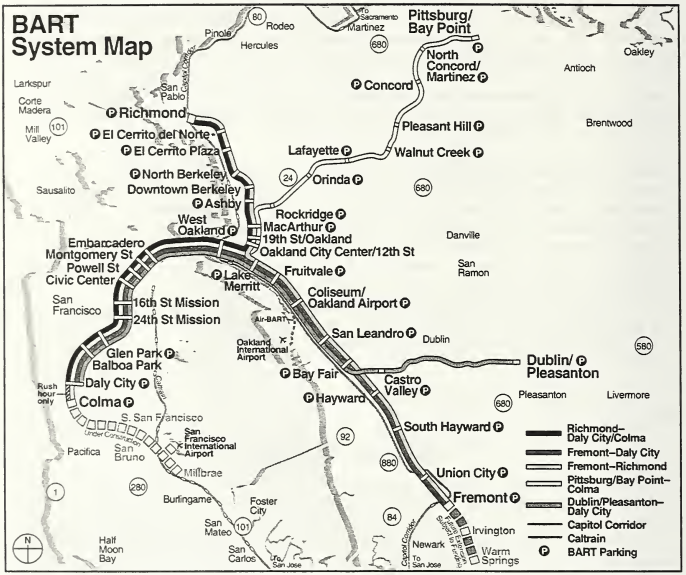
North Concord/Martinez, opened in December 1995, and Pittsburg/Bay Point, opened in December 1996, extended the system from Concord Station. Colma, opened in February 1996, extended the system from Daly City Station. The Castro Valley and Dublin/Pleasanton stations opened in May 1997, adding a new line from Bay Fair Station. A map of the current system, which now comprises 95 miles of track and 39 stations, is shown in Figure 1-2.

BART Extension Stations	Opening Date
North Concord/ Martinez	December 1995
Colma	February 1996
Pittsburg/ Bay Point	December 1996
Castro Valley	May 1997
Dublin/Pleasanton	May 1997

Revenue Vehicles

BART's 669-car fleet originally consisted of three types of vehicles: 135 control-equipped A-cars, 304 non-control B-cars and 230 C-cars. The C-cars consist of 150 control-equipped C1s and 80 C2s, of which 77 are currently control-equipped. All 80 C2 cars will be control equipped shortly. A- and B- cars were manufactured between 1971 and 1975, C1-cars were manufactured between 1987 and 1990, and C2-cars in 1995 and 1996. Control-equipped A-cars are 75 feet long by 10.5 feet wide, have 72 seats, and can only be used as a lead or trail vehicle on each train. Non-control-equipped B-cars also have 72 seats, are 70 feet by 10.5 feet, and can only be used as mid-train vehicles. Control-equipped C1- and C2-cars have 64 and 68 seats, respectively, and have dedicated spaces for passengers in wheelchairs. These cars are 70 feet by 10.5 feet, and can be used as lead, mid-train, or trail vehicles. Based upon the current fleet mix, the weighted average of seats per car is 70 seats.

Figure 1-2 BART System Map



BART is currently renovating all 439 A-and B-cars. The renovation program consists of disassembly and complete repair, upgrading and rebuilding the cars, restoring them to like-new condition. Up to 36 vehicles at a time are rotated out of the fleet and placed in production at the ABB Daimler-Benz Transportation, North America, (Adtranz) renovation facility in Pittsburg, California. These vehicles will be unavailable for service for periods of 2 to 18 months each and the last car is scheduled to return to service in December 2002. As of May 2000, 104 renovated cars have successfully completed all acceptance tests and are again available for revenue service.

BART Revenue Vehicles

	A&B Car Renovation	
Car Type	Pre	Post
A-Cars	135	59
B-Cars	304	380
C1-Cars	150	150
C2-Cars	80	80
Total	**669**	**669**

Trains are operated from the lead A- or C-car. Computers located along the right-of-way automatically control train movements. System train supervision is provided by BART's train control computer at the Operations Control Center (OCC), located in the Lake Merritt Administration Building in downtown Oakland. Train operators aboard each train can override the automatic system should the need arise.

Train lengths range from three to ten cars. The three-car minimum train length is a California Public Utilities Commission requirement. The ten-car maximum length corresponds to station platform lengths. Vehicle performance specifications include a maximum 80-mile per hour speed; however revenue service is based on a 70-mile per hour maximum speed. The systemwide average speed for revenue service, including stations stops, is 35-miles per hour.

Track and Right-of-Way

BART is powered by an electric third rail at 1,000 volts DC. The rail right-of-way is fully protected and has no grade crossings. BART's rail system consists of 95 miles of continuously welded, double-mainline, 66-inch gauge track. A special track geometric vehicle is used to analyze the running rails and electric third rail. Tracks are routinely inspected and maintained to insure structural integrity and smooth operating surfaces. Trackwork is scheduled and performed during non-revenue hours.

Maintenance Yards and Shops

Both planned preventive and unscheduled maintenance on transit vehicles are performed in accordance with schedules and specifications at four facilities, three of which are located in the East Bay (at Concord, Hayward and Richmond) and one in the West Bay (at Daly City). In addition to scheduled and unscheduled maintenance, BART's Hayward Shop also performs accident damage, component, and heavy repairs. A fifth maintenance facility, the Oakland Shops, is located between Lake Merritt and Fruitvale Stations and provides support to buildings, grounds, and equipment other than rail vehicles.

Stations and Access

The BART system has 39 stations, 14 of which are in subway, 13 elevated, and 12 at grade. All stations have platform lengths of approximately 700 feet to accommodate BART's maximum train length of ten cars. On average, stations are spaced between one half to one mile apart within and near San Francisco, Oakland and Berkeley downtown areas and two to ten miles apart in suburban areas.

Station access is provided by stairways, elevators and escalators that link various levels to streets, connecting local transit and parking areas. Automatic fare collection (AFC) equipment is located in each station to vend and process passenger tickets. Automated train destination signs on the platform level of each station provide visual displays of an arriving train's destination and other information. All stations have special displays on the platform and concourse levels to provide additional information on train schedules, local area destinations, connecting transit, and other information to assist BART riders. A public address system linked to BART's OCC is used to provide additional passenger information. Station agents also use this system to make announcements in stations.

Station access facilities can include dedicated bus lanes and berths, bus stop shelters, transit information centers, regional transit ticket outlets, transfer dispensers, bicycle racks and lockers, and parking. BART users may sign up for the BART Carpool program, which offers designated parking spaces close to stations for vehicles occupied by two or more people. Figure 1-3, BART Access Inventory, details major facilities at BART stations. During the past fiscal year, Fruitvale and Richmond station parking was reduced by 151 and 210 spaces, respectively, to accommodate new intermodal facilities, and a parking redesign added ten accessible spaces to Ashby Station. A temporary parking lot with 400 spaces on Alameda County-owned land is anticipated to open in June 2000 at the Dublin/Pleasanton Station. Parking at BART stations is free, with the exception of Lake Merritt, which has a 25¢ daily charge.

Administration/Operations Control Center

BART's administrative headquarters are located at 800 Madison Street in downtown Oakland, above Lake Merritt Station. This facility also houses BART's OCC and central train control computer. While trains are automatically controlled by wayside equipment located along the trackway and stations, the central train control computer provides overall systemwide supervision of train movements 24-hours a day. Train controllers and other BART certified personnel located in the OCC monitor train movements and can override the automatic system should the need arise. A two-way radio system provides voice communication between the OCC and all train operators. A telephone system provides voice communication to station agents. Remote cameras located at key points allow the OCC personnel to visually monitor train movements and activities in and around stations. Each station has radios for direct contact to the OCC in the event of emergencies, delays, problems or other events.

Figure 1-3 BART Access Inventory

BART Line	BART Station	Parking Spaces	Motorcycle Spaces	Bicycle Racks	Bicycle Lockers (a)	Taxi Zone	Number of Connecting Bus Routes
San Francisco							
	Colma (b)	2,491	16	40	12	Yes	16
	Daly City	2,076	24	34	10	Yes	12
	Balboa Park	0	0	15	6	No	11
	Glen Park	54	19	34	6	No	5
	24th Street/Mission	0	0	11	0	No	5
	16th Street/Mission	0	0	0	0	No	7
	Civic Center	0	0	0	0	No	14
	Powell Street	0	0	0	0	No	21
	Montgomery Street	0	0	0	0	No	21
	Embarcadero	0	0	0	0	No	18
Fremont							
	Fremont	2,197	18	94	17	Yes	21
	Union City	1,196	10	66	10	Yes	14
	South Hayward	1,314	12	50	15	Yes	4
	Hayward	1,465	27	62	10	Yes	17
	Bay Fair	1,639	24	36	8	Yes	9
	San Leandro	1,234	12	46	14	Yes	8
	Colisium/Airport	1,026	24	40	1	Yes	12
	Fruitvale (c)	919	24	32	20	Yes	11
	Lake Merritt	211	6	20	10	No	8
Dublin/Livermore							
	Dublin/Pleasanton	2,612	20	66	12	Yes	13
	Castro Valley	1,123	22	20	10	Yes	3
Richmond							
	Richmond	579	12	30	1	Yes	8
	El Cerrito del Norte	2,247	15	18	14	No	16
	El Cerrito Plaza	791	20	40	15	Yes	10
	North Berkeley	806	24	89	36	Yes	4
	Downtown Berkeley	0	0	67	0	Yes	13
	Ashby	580	24	30	16	Yes	3
Pittsburg/Bay Point							
	Pittsburg/Bay Point	2,032	16	24	10	Yes	7
	North Concord/Martinez	1,975	21	30	8	Yes	2
	Concord	2,513	24	64	20	Yes	13
	Pleasant Hill (d)	3,450	40	67	34	Yes	9
	Walnut Creek	1,966	24	32	24	Yes	11
	Lafayette	1,521	24	52	15	No	3
	Orinda	1,385	18	32	8	No	2
	Rockridge	886	12	42	28	Yes	7
	MacArthur	608	10	19	9	Yes	4
Oakland							
	19th Street	0	0	0	0	No	15
	12th Street	0	0	0	0	No	24
	West Oakland	419	21	28	4	Yes	4
TOTALS		**41,315**	**563**	**1,330**	**403**	**25 Yes/14 No**	**405**

(a) Bicycle lockers can hold two bikes.
(b) Colma Station includes 1,074 spaces in the SamTrans surface parking lot.
(c) 13 additional lockers are provided at Fruitvale Station for exclusive use of City of Alameda employees.
(d) Pleasant Hill Station includes 581 temporary spaces for I-680/24 construction

WWW.BART.GOV

Serving the most "wired" market in the nation, the BART website (http://www.bart.gov) expands the District's reach in an emerging digital age. Honored with the 1999 American Public Transportation Association (APTA) Adwheel award as the best transit website in North America, BART is leveraging the Internet to add value for customers with features such as interactive trip planning, online ticket sales, targeted email notifications, and a host of other services. In fact, as BART ridership has grown, consumption of paper copies of BART schedules and other brochures has remained flat, suggesting increasing use of the trip planning feature of the website. The District has also forged unique public/private partnerships with Internet businesses such as Webvan, the online retailer that delivers groceries and BART tickets directly to a customer's doorstep - another first for BART customers.

BART Rail Service Description

Rail service is provided between the hours of 4:00 a.m. and 1:30 a.m., Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. The last trains depart each end of the line around midnight. Closing times for individual stations are coordinated with the schedule for the last trains. Passengers can get anywhere in the system if they arrive at any station by midnight. Figure 1-4 summarizes the rail service provided by route on weekdays and weekends. Depending upon demand, holiday rail service is operated on a full or modified weekday schedule, or a Saturday or Sunday schedule. BART service is also coordinated with major Bay Area events. Additional rail service for special events is provided by either lengthening regularly scheduled trains, placing additional trains in service, or providing revenue operations at times when the system is normally closed (e.g., early Sunday morning opening for the annual Bay-to-Breakers footrace in San Francisco).

Figure 1-4 BART Rail Headways and Hours of Service

	TRANSBAY ROUTES				EASTBAY ROUTE	SAN FRANCISCO
	Pittsburg/Bay Point - Colma	Fremont - Daly City	Dublin/ Pleasanton - Daly City	Richmond - Daly City (a)	Fremont - Richmond	Embarcadero Civic Center
HEADWAY (minutes)						
WEEKDAY						
Peak Hour	5.0	15.0	15.0	15.0	15.0	2.7
Midday	15.0	15.0	15.0	15.0	15.0	3.8
Night	20.0	(b)	20.0	(b)	20.0	10.0
SATURDAY						
Day	20.0	20.0	20.0	20.0	20.0	5.0
Night	20.0	(b)	20.0	(b)	20.0	10.0
SUNDAY						
Day	20.0	(b)	20.0	(b)	20.0	10.0
SERVICE HOURS (time)						
WEEKDAY						
First Train leaves	04:02	05:06 (c)	04:01	04:56 (c)	03:58	04:43
Last Train arrives	01:24	20:43 (c)	01:25	20:43 (c)	01:28	01:07
SATURDAY						
First Train leaves	06:00	08:53 (c)	06:04	08:46 (c)	05:57	06:31
Last Train arrives	01:24	20:22 (c)	01:25	20:08 (c)	01:28	01:07
SUNDAY						
First Train leaves	08:00	(b)	07:57	(b)	07:57	08:26
Last Train arrives	01:24	(b)	01:25	(b)	01:28	01:07

a) Peak period service on this route is extended to Colma.
b) Route not in service during identified time periods. Travel is accommodated on other routes with one transfer in downtown Oakland.
c) Earlier and/or later service is available on other routes. Travel is accommodated on other routes with one transfer in downtown Oakland.

ADA Paratransit Service Description

BART complies with the Americans with Disabilities Act (ADA) requirement to provide paratransit service which is comparable and complementary to the BART system. Federal regulations define the ADA paratransit service area as a 0.75-mile radius around a BART station.

To provide effective paratransit service in its widely dispersed service area, BART has established a variety of partnerships with other transit operators. In the areas of joint service with AC Transit, BART and AC Transit together fund and administer the East Bay Paratransit Consortium (EBPC). By agreement, in the service area of the EBPC, BART and AC Transit jointly administer paratransit service through a contractor. BART assumes 31% and AC Transit 69% of the costs based on their proportionate areas of responsibility.

In San Francisco, BART has entered a Memorandum of Understanding (MOU) with the San Francisco Municipal Railway (Muni) whereby Muni provides service to meet BART's obligation and BART reimburses Muni for 8.8% of the cost of paratransit service to all San Francisco riders. Elsewhere, agreements provide for the local operators to receive California Transportation Development Act (TDA) funding as partial payment for providing for BART's obligation within a 0.75-mile radius of the stations. The local providers with which BART has agreements are: Contra Costa County Transit Authority (County Connection), Eastern Contra Cost Transit Authority (TriDelta), Western Contra Costa Transit Authority (WestCAT), and Livermore Amador Valley Transit Authority (LAVTA). These agencies provide paratransit service on behalf of BART at the same time as they provide for their own paratransit service obligation.

BART participates in a regional ADA eligibility process followed by the principal transit operators in the San Francisco Bay Area. Paratransit service is available to persons who have been certified as being unable to access and ride BART because of their disability. Most of the paratransit service programs in which BART participates operate by reservation only. Muni is the exception in that it also provides for same-day taxi service under a user subsidy program. In addition, BART, along with other transit agencies in the Bay Area, participates in efforts at coordinating regional travel by paratransit through the Partnership Transit Coordinating Committee and its Accessibility Committee.

BART Fare Components and Ticket Prices

The individual components of BART's fare structure are summarized in Figure 1-5, with station-to-station fares shown in Figure 1-6. The following presents information on BART fares for rail and ADA paratransit service.

Rail Fares

BART rail fares are computed on a distance-based formula. Surcharges apply to Transbay travel and trips originating from or destined to Daly City and Colma Stations, which are located in San Mateo County. (San Mateo County is not a full participating member of the BART District.) An additional speed-premium adjustment is made to fares, based on the scheduled speed of a trip compared to the systemwide average. BART's base rail fare is currently $1.10 for the shortest trips within downtowns and other local areas; the highest rail fare is $4.70 for the 45-mile Transbay trip between Colma and Pittsburg/Bay Point.

Discounts and Other Fares

BART provides a 75% discount to children between the ages of 5 and 12 (children under 5 ride free), to persons 65 and over, and to persons with a qualifying medical condition or mobility impairment. Those not qualifying for these discounts may

purchase a $32 or a $48 high-value ticket for $30 or $45, respectively, a savings of 6.25% off the regular ticket price.

Tickets can be purchased in BART stations or from a variety of local retailers and merchants, including Safeway and Walgreens. Tickets may also be purchased on-line from www.BART.gov or www.webvan.com.

Students between the ages of 13 and 18 are able to purchase $33 high-value tickets discounted by 25% to $25.00 through participating schools. The tickets also include a last-ride bonus, which allows a trip of any length to be completed if there is remaining value on the ticket. Students are limited to two tickets per month valid for weekday school-related travel.

Additional discounts are provided in conjunction with travel on other transit systems connecting with BART. The BART/Muni FastPass allows unlimited use of Muni services and BART within the City of San Francisco. The price of the monthly FastPass is $35. BARTPlus combines a BART ticket with a pass valid for one-half month on BART and ten other Bay Area transit systems serving BART rail stations.

The ADA limits the fare that can be charged for ADA paratransit service to twice the full adult fare for a comparable fixed route trip. Fares for paratransit service provided through the joint BART/AC Transit EBPC are distance based and range from $2.25 for trips less than eight miles to a maximum of $6.75 for trips of up to 24 miles. Paratransit travel within San Francisco is provided by taxi service at 10% of the meter rate, usually averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00 from Muni. Paratransit fares in BART's other service areas range from $1.00 to $6.00 per trip.

Figure 1-5 BART Fare Components and Ticket Prices

As of May 2000		
TRIP LENGTH:	Up to 6 miles	$1.10
	Between 6 and 14 miles [1]	$1.34 + 9.9¢/mile
	Over 14 miles	$2.13 + 5.9¢/mile
SURCHARGES:	Transbay	66¢
	San Mateo County [2]	76¢
SPEED PREMIUM:	Charge differential for faster or slower than average trips, based on scheduled travel time	±3.7¢/minute
RESULTING FARES:	Range [3]	$1.10 to $4.70
	Average fare (before discounts) [4]	$2.39
	Average fare paid (after discounts) [4]	$2.13
RAIL FARE DISCOUNTS & SPECIAL FARES:[5] (high-value tickets)	Children under 5	Free
	Children 5 through 12 (75% discount)	$4.00 ($16 value)
	Persons 65 and over (75% discount)	$4.00 ($16 value)
	Persons with a qualifying disability (75% disc)	$4.00 ($16 value)
	Students 13 through 18 (25% discount) [6]	$25.00 ($33 value)
	Regular adult (6.25% discount)	$30 & $45 ($32 & $48 value)
	Excursion (entry/exit, same station) [7]	$3.80
SEMI-MONTHLY RAIL/BUS PASS:	BARTPlus (w/ $15 to $50 BART value) [8]	$28 to $61 (8 denominations)
MONTHLY RAIL/ MUNI PASS:[9]	FastPass – (within San Francisco, unlimited monthly use of BART & Muni)	$35
ONE-WAY TRANSFERS TO:[10] (issued at rail stations)	County Connection	50¢ ($1.00 base fare)
	Union City Transit	25¢ (75¢ base fare)
ROUND-TRIP TRANSFERS TO/FROM:[10] (issued at rail stations)	AC Transit: From BART/To BART	$1.00 ($1.25 base fare)
	SF Muni, within SF: From BART	$1.00 ($1.00 base fare)
	To BART	Free ($1.00 base fare)
	SF Muni, Daly City Stn. From BART/To BART	Free ($1.00 base fare)
ADA SERVICE:	East Bay Paratransit Consortium[11]	$2.25 to $6.75
	BART/Muni Cost-Sharing Agreement[12]	80¢ to 90¢ approximately
	All other areas	$1.00 to $6.00 approximately

NOTES: BART FARE COMPONENTS AND TICKET PRICES

1. Trips over 6 miles within East Bay Suburban Zone (certain station pairs between Pittsburg/Bay Point and Orinda, Fremont-Bay Fair, Richmond-Ashby and Dublin/Pleasanton-Bay Fair) are priced at the fare indicated for trips under 6 miles.

2. The San Mateo County surcharge does not apply to Transbay trips.

3. BART rail fares are computed by automatic fare collection equipment and are rounded to the nearest 5¢. The range of fares is based on the adopted fare resolution for the fare increase effective April 1, 1997. Prior fare increases occurred on April 1, 1996, April 1, 1995, January 1, 1986, September 8, 1982, June 30, 1980 and November 3, 1975.

4. The average rail fare before and after discounts includes rail passenger revenue from all fare instruments, including the San Francisco Muni FastPass. The figures shown are FY99 actuals.

5. Discounted tickets are sold at outside retail and community outlets through BART's Tickets-To-Go program. In-station sales booths at Montgomery, Embarcadero, Powell, Colma, Walnut Creek and North Concord/Martinez also sell a variety of ticket types. BART's Pass Office sells all ticket types via mail order.

6. Students are limited to two tickets per month for weekday school-related travel only and tickets include a last ride bonus.

7. There is a three-hour limit on the excursion fare.

8. The semi-monthly BARTPlus ticket was made available starting on April 1, 1991 and is valid for unlimited rides on seven other systems (excludes Transbay and some express bus service) which connect with BART rail. These other systems are: AC Transit, Muni, SamTrans, County Connection, Valley Transportation Authority, Union City Transit, Dumbarton Express and WestCAT. BARTPlus also features the last ride bonus. Excess remaining stored BART value may be used within a five-day grace period following the last day of the designated half-month.

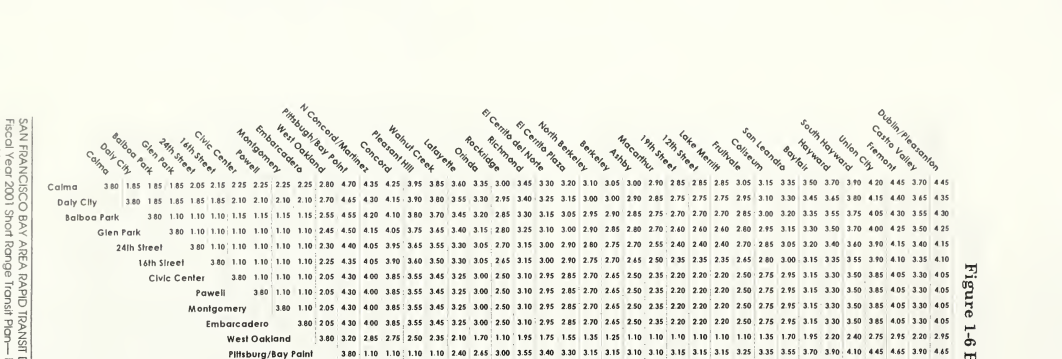
9. BART began accepting the regular adult Muni FastPass for BART travel within San Francisco on April 1, 1983 (discounted FastPasses are not valid on BART). FastPasses are sold at stores, places of employment and other outlets in San Francisco.

10. Except for the two-part $1.00 (round trip) Muni transfers issued in San Francisco stations, all other one-way and round-trip transfers are issued free of charge from vending machines located inside the paid area of BART rail stations. Riders needing connecting services can obtain transfers prior to exiting the BART paid area. Additional fares, if required, are paid upon boarding the connecting carrier. This additional fare is shown in the right-hand column. The prices shown in parentheses correspond to the connecting carrier's base fare (the full adult price when not using a transfer). The fare savings with the transfer are equal to the base fare less the additional fare paid to the connecting transit system.

11. BART and AC Transit have formed the East Bay Paratransit Consortium (EBPC), which provides service to eligible BART customers in service areas that overlap with AC Transit.

12. BART has executed a cost-sharing agreement with San Francisco, which permits eligible BART customers to use paratransit service provided by Muni for travel within the City and County of San Francisco. Taxi service is provided to customers at 10% of the meter rate, averaging 80¢-90¢. Lift van and group van monthly passes are available for $8.00.

Figure 1-6 BART Station-to-Station Fares



BART FARE CHART
Effective April 1, 1997

Chapter Two

CURRENT OPERATING PERFORMANCE

In general, BART performance can be looked at from several perspectives. Indicators associated with ridership, customer satisfaction, and financial health provide a broader strategic look at organizational performance. In addition, BART monitors various operating performance measures on a monthly basis, with quarterly updates for the Board. As background for the ten-year operating financial plan, performance relative to both potential strategic and current operating performance measures is discussed below.

Strategic Performance Indicators

The scope and concept of long-term strategic performance measures are currently evolving. Staff is in the process of defining a series of performance measures to be recommended to the Board for consideration. Some of these measures, or variations of the measures, are currently tracked on an annual basis. Tracking as a strategic performance indicator would put a longer-term focus on the goals and aid in decision-making processes. Potential performance measures are discussed below.

Ridership

A first and obvious measure of system performance, ridership is related to the Strategic Plan focus area of Travel Demand, as well as Land Use and Quality of Life.

BART ridership increased at an unprecedented rate during FY00, setting new record highs throughout the fiscal year. Weekday trips averaged 327,900 in March of 2000, 13% over the adopted budget for that month and 14% higher than one year earlier. With the opening of the new San Francisco Giants PacBell Park in the South of Market area of San Francisco, ridership on game days can top 347,000. This is just slightly below the level attained in the month after the 1989 Loma Prieta earthquake, when, due to the closure of the Bay Bridge, BART's transbay service provided a valuable link between San Francisco and the East Bay.

Much of this ridership increase can be attributed to the continuing expansion of the Bay Area economy. The lowest unemployment rates in history have brought nearly half a million new jobs to the Bay Area economy in the past five years. In addition to directly contributing to ridership growth, the economic expansion increases auto congestion, driving even more people to ride BART. BART's reliable rail service provides a highly desirable alternative to auto travel. Rising gas prices also has an impact on ridership. Additional special events, such as games at the new PacBell Park, and attractions, such as the new Sony Metreon Center in San Francisco, have also added to ridership growth.

Four distinct phases of ridership growth have been observed since the fall of 1998 (FY99). At that time, average weekday trips increased by approximately 10,000 over the average of 270,000, due mainly to riders switching to BART from Muni when Muni's Metro System experienced severe service delays. The second increase occurred over the summer of 1999, at the start of FY00, when average weekday trips jumped

again, this time to around 295,000. The third increase occurred last fall, when ridership jumped by another 20,000 to 315,000 on average. The last noticeable increase occurred this spring, when weekday trips jumped by 5,000 to average 320,000.

The FY01 budget is based off this 320,000 level, and assumes that ridership grows by approximately 2% to 325,000 average weekday trips. The entire FY00 is estimated to average 309,300 for weekday trips. This figure is lower than the FY00 year-end level of 320,000 since it includes average weekday ridership back to July 1999, the beginning of the fiscal year. As stated previously, ridership at that time was averaging 295,000.

Ridership History

Figure 2-1, BART Rail Ridership, identifies average weekday, Saturday, Sunday, and total annual linked trips by fiscal year for the past ten years. Linked trips are defined as one passenger equals one trip, regardless of whether the person transferred to another BART route to complete their trip. BART tracks passenger entries and exits through data recorded by the BART fares gates when a passenger uses their ticket to exit the system.

As exhibited in Figure 2-1, ridership has increased steadily over the past ten years, with the exception of a few years during the mid-1990s, when the lingering recession in California combined with BART fare increases resulted in little or no patronage growth. The opening of five new stations between 1995 and 1997 and the recovery of the California economy contributed to the turnaround in BART use.

Figure 2-1 BART Rail Ridership

	Average Weekday Trips	Average Saturday Trips	Average Sunday Trips	Total Annual Trips (millions)
FY 90	241,525	107,526	66,416	70.55
FY 91	247,456	108,099	65,779	71.90
FY 92	249,548	108,179	68,111	72.99
FY 93	253,838	108,356	68,246	73.94
FY 94	251,981	104,671	67,008	73.18
FY 95	248,169	103,295	66,214	72.05
FY 96	248,669	105,763	70,723	72.45
FY 97	260,543	109,533	72,814	75.87
FY 98	265,324	110,778	74,042	75.67
FY 99	278,683	118,452	80,299	81.36
FY 00 *	309,320	130,800	89,900	90.79

* FY00 based upon actual data through April 2000 and estimates for May through June 2000.

Causes for Recent Increase

The recent increases in ridership appear to be caused mainly by the booming Bay Area economy. The number of jobs has increased all over the Bay Area, increasing the size of the work travel market. The increase in jobs has also caused additional congestion on freeways. Although freeway congestion has increased, BART travel times have remained the same. Hence, BART has become more competitive with the automobile on some congested corridors because it offers better travel times and greater service reliability.

Figure 2-2 Freeway Capacity Diagram

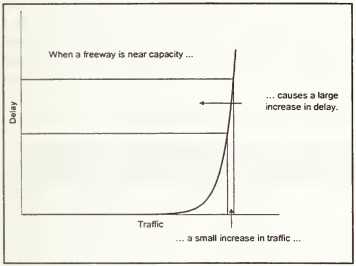


Figure 2-2, Freeway Capacity Diagram, shows what happens when a freeway is near capacity, as most Bay Area freeways are during peak hours. At high traffic levels, even a small increase in traffic causes a disproportionately large increase in delay in auto travel times. When this occurs, many commuters seek alternative means of commuting. BART, with its dedicated right-of-way, is able to provide a distinct advantage over the auto. BART's consistently high train and customer on-time performance retains significant riders.

Other causes for ridership increases includes the recent escalation in gas prices, although BART realized a significant percentage of the ridership increase before gas prices rose substantially in early 2000. Also, parking in San Francisco has not increased in line with rapid real estate development. In fact, some parking has been removed in preparation for renovation of elevated freeway structures and for other development. Additionally, BART fares have remained constant since the last fare increase in April 1997. The Bay Area Consumer Price Index (CPI) has increased by over 10% since then, in effect discounting the cost of using BART.

Market Areas

Ridership growth has been occurring in all areas of the system, as shown in Figure 2-3, Average Weekday Trips by Market Area. The Transbay corridor, perhaps the most constrained of all corridors served by the BART system, has exhibited a 13% increase in trips in recent months, over the same time period one year earlier. During the morning peak periods, BART carries nearly 45% of westbound passenger trips in the Bay Bridge corridor. Trips on BART in the West Bay corridor within and between San Francisco and the Peninsula have grown over 10%, due in part to increased use of the Muni FastPass ticket within San Francisco. East Bay trips – within and between Contra Costa and Alameda county stations – have also increased by nearly 10%.

Reverse commuting has also increased, with East Bay stations such as Dublin/Pleasanton, Pleasant Hill, and Walnut Creek experiencing high passenger exit volumes in the morning peak periods. Recently, significant development and increased employment in downtown Oakland has increased ridership at 12th Street and 19th Street stations.

Figure 2-3 Average Weekday Trips by Market Area

	Transbay	West Bay	East Bay
FY92	119,783	67,490	62,275
FY93	122,610	66,631	64,597
FY94	121,541	65,728	64,711
FY95	120,671	63,729	63,769
FY96	122,026	64,144	62,499
FY97	127,952	67,066	65,525
FY98	128,467	68,663	68,193
FY99	133,506	75,938	69,239
FY00*	148,188	82,205	74,555

* FY00 based upon actual data through April 2000 and estimates for May through June 2000.

Figure 2-4, Exits by Station, lists the average weekday exits at each station on the BART system during the third quarter of FY00, January through March 2000. The stations with the highest average weekday exits are the four downtown San Francisco stations, followed by downtown Oakland's 12th Street Station, the outlying San Francisco stations of Balboa Park, 24th Street and 16th Street, and the downtown Berkeley Station adjacent to the University of California campus.

Peak and Offpeak Trips

BART weekday ridership can be divided into two distinct periods, peak and off-peak. The peak consists of peak two hours of ridership in the morning and in the evening and comprised mainly of commute travelers. Offpeak period is considered all other times during the weekday.

BART carries approximately 170,000, or 55% of average weekday passengers, in the off-peak period and 145,600 passengers (45% of weekday average) during the four-hour peak period. Ridership in the off-peak period is beneficial to both BART and the passenger, because capacity exists for the passenger and BART usually does not have to add trains or cars to maintain high quality service.

Customer Access

BART customers access the system by a variety of modes, including walking, transit, single-occupant auto, carpool, and bike. The access modes of the sample passengers in the 1998 Station Profile Survey were: 64.8% by auto (with 25.4% of that drive alone, 3.8% car pool, and 10.0% drop off), 31.8% by transit, 2.2% by bicycle, 0.6% walk, and 0.3% each by taxi and motorcycle. The Board recently directed staff to develop five and ten year goals for various modes of access. Staff will return to the Board in the fall of 2000 with proposed goals.

Figure 2-4 Exits by Station

January - March 2000	
Montgomery	36,970
Embarcadero	32,470
Powell	22,420
Civic Center	16,420
12th - Oakland	12,350
Balboa Park	12,350
24th - SF	11,750
Berkeley	10,340
16th - SF	9,130
El Cerrito del Norte	8,510
19th - Oakland	7,780
Daly City	7,760
Glen Park	7,600
Fruitvale	7,220
Colma	6,780
Pleasant Hill	6,710
MacArthur	6,170
Fremont	5,870
Concord	5,830
Walnut Creek	5,780
Coliseum	5,580
Dublin/Pleasanton	5,270
San Leandro	4,980
Bay Fair	4,940
Rockridge	4,820
Hayward	4,640
West Oakland	4,500
Pittsburg/Bay Point	4,380
Lake Merritt	4,380
El Cerrito Plaza	4,230
Ashby	4,200
Union City	3,950
North Berkeley	3,610
Richmond	3,540
Lafayette	3,070
South Hayward	2,890
Orinda	2,730
Castro Valley	1,990
North Concord	1,760
Total	**315,670**

Customer Satisfaction

Customer satisfaction is a second measure of performance, linked to Strategic Plan focus areas of the BART Customer Experience, the People of BART, and Physical Infrastructure. Interestingly, it may be inversely related to ridership, at least when passenger carrying capacity is approaching limits, such as during peak hour, peak direction service.

A Customer Satisfaction Survey is completed every other year, with the next survey scheduled for September 2000. On board BART trains, every rider in one pre-selected car is asked to complete the survey. The September 1998 survey resulted in over 5,000 usable responses.

The September 1998 survey showed about 74% of the BART riders surveyed were very satisfied or somewhat satisfied overall with the service provided. Fifty-six percent of the respondents agreed that BART is a good value for the money.

Financial Health

Key indicators of financial health currently monitored by BART are discussed in detail in Chapter Four, Financial Performance Indicators. These include: farebox recovery ratios, operating ratio, rail cost per passenger mile, and debt capacity.

Figure 2-5 shows actual performance of four key financial indicators for the past nine fiscal years. Significant ridership growth outpacing the cost of providing service has improved each of the indicators in recent years.

Figure 2-5 Financial Performance Indicators

	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00 *
Rail Farebox Recovery Ratio	49%	50%	48%	49%	52%	58%	57%	61%	65%
System Farebox Recovery Ratio	47%	49%	47%	48%	51%	56%	55%	59%	63%
System Recovery Ratio	51%	53%	52%	53%	56%	61%	60%	65%	69%
Rail Cost Per Passenger Mile (cents)	22.1¢	21.7¢	22.8¢	23.0¢	25.5¢	26.3¢	28.9¢	26.9¢	25.2¢

* FY00 based upon actual data through March 2000.

BART Operating Performance Indicators and Standards

Figure 2-6, Financial Performance Indicators, shows BART's actual performance for the first three quarters of FY00, as well as FY99 performance. Performance is reviewed annually and if a current standard is consistently achieved it is likely to be revised. A few primary indicators are described below.

- Average Weekday Trips is defined as the average of all passengers carried in revenue service each weekday during the fiscal quarter. Monthly, quarterly, and fiscal year standards are set during the annual budget process.
- Customer On-time is defined as the percentage of all riders who arrive at their destination stations less than five minutes late compared with the published schedule. An on-time customer trip may be direct between two stations using a single train, or it may involve a transfer to a second train at an intermediate station (which includes a scheduled transfer time component). The published schedule includes travel times for all direct and transfer trips throughout the day.
- Train On-time is defined as the percentage of all scheduled trains that dispatch at the proper stations and arrive less than five minutes late at their scheduled terminal stations. An on-time train must provide continuous service at each station along its entire run, without incurring an unscheduled offload or station run-through.
- Car Equipment Reliability, or the mean time between service delay, is measured as the total car-hours in a month divided by total number of delay/events caused by vehicle malfunctions.
- Car Equipment Availability is determined by the average number of "go" cars available for service at 0400 on all commute days during the month.
- Escalator and Elevator Availability is calculated as the average percentage of all machines that are in service, measured at numerous times of the day and throughout the month.
- AFC Availability for Gates and Vendors is the average percentage of all machines that are in service, measured at 0730 each commute day during the month.
- Transbay Car Throughput is defined as the total number of cars used on designated trains that are scheduled to traverse the transbay tube in the peak direction during the rush periods. Peak direction trains that are delayed and travel through the tube after the peak are not included in the car throughput value. Also, peak transbay trains that are cancelled or offloaded before traversing the tube are excluded. Currently, the number of scheduled transbay peak direction trains is 46 trains, with 433 cars, for both the a.m. and p.m. peak.

Figure 2-6 Operating Performance Indicators

OPERATING PERFORMANCE INDICATORS	FY00, 3rd Quarter YTD ACTUAL	STANDARD	STATUS	FY99 ACTUAL
Average Ridership - Weekday	304,589	281,100	met	278,683
Customers on Time				
Peak	93.8%	94.0%	not met	93.8%
Daily	95.6%	94.0%	met	95.6%
Trains on Time				
Peak	89.8%	n/a	n/a	89.5%
Daily	92.6%	95.0%	not met	91.5%
Peak Period Transbay Car Throughput				
AMPeak	99.5%	97.5%	met	98.4%
PM Peak	99.1%	97.5%	met	98.6%
Car Availability at 4 AM (0400)	542	523	met	542
Mean Time Between Failures	1,246	1,300	not met	1,295
Elevators in Service				
Station	98.2%	97.0%	met	98.4%
Garage	96.2%	97.0%	not met	97.6%
Escalators in Service				
Street	88.0%	95.0%	not met	94.4%
Platform	95.7%	95.0%	met	97.3%
Automatic Fare Collection				
Gates	92.4%	95.0%	not met	93.5%
Vendors	87.4%	90.0%	not met	89.0%
Environment Outside Stations	4.7	4.8	not met	4.7
Environment Inside Stations	5.3	5.1	met	5.2
Station Vandalism	5.5	5.7	not met	5.6
BART Police Presence	12%	14%	not met	12%
Station Service Personnel	90%	91%	not met	91%
Train P.A. Announcements	82%	87%	not met	82%
Train Vandalism	5.5	5.5	met	5.5
Train Cleanliness	6.1	6.5	not met	6.0
Customer Complaints				
Total Complaints	2,022	n/a	n/a	2,266
Complaints per 100,000 Passenger Trips	9.1	n/a	n/a	11.2
DBE Participation	24.5%	21.0%	met	29.4%
Police				
Part 1 Crime - Crimes Against Persons	39	61	met	43
Trains	7	n/a	n/a	5
Parking Lots	11	n/a	n/a	15
Stations	21	n/a	n/a	23
Auto Theft	126	142	met	106
Auto Burglary	179	248	met	194
Safety				
Station Incidents/Million Patrons	6.5	11.4	met	6.9
Vehicle Incidents/Million Patrons	1.4	3.2	met	1.9
Lost Time Injuries/Illnesses/Million Hours	36.7	50.0	met	29.5
OSHA Recordable Injuries/Million Hours	72.0	85.0	met	73.2
Unscheduled Door Openings/Million Car Miles	0.2	0.4	met	0.3
Rule Violations Summary/Million Car Miles	0.3	1.0	met	0.4

Chapter Three

PLANNING FORECASTS

BART has always endeavored to provide first-class service to its passengers. As the system ages and expands, excellent service is more important than ever. The ridership forecast assumes customer satisfaction with BART services continues at today's levels. Key to maintaining the high level of customer satisfaction is the ability to deliver reliable, safe, and clean service. Annual operating expense and capital expenditure levels will be critical to maintenance of this level. Realistic planning and development of future service requirements are essential to meet the challenge.

BART's ridership forecast is fundamental to the formulation of service plans and the capital program required to support the necessary operating plant and equipment. Accordingly, this chapter begins with a discussion of factors that influence ridership. Within this context, the ridership forecast for the current Short Range Transit Plan period is presented. The Future Rail Service Plans follow this section, and include a description of the service plans developed to accommodate core system and extensions ridership growth.

Rail Ridership Forecast

Forecast Assumptions

Ridership forecasts are based on regional growth, BART fares, train load factors, the quality of rail service provided, changes in competing markets (e.g., auto travel times and costs), the schedule for starting service on extensions and subsequent extension ridership phasing. The ridership forecast also assumes funding and maintenance of the system at current levels and as planned in the FY01 draft CIP. The forecast also incorporates projected patronage for the BART-SFO Extension, as detailed in the June 1996 Final Environmental Impact Report/Final Environmental Impact Statement (FEIR/FEIS).

Regional Growth

Patronage projections were developed using BART's Ridership Forecasting Model. The growth assumptions used are based upon the Association of Bay Area Government's (ABAG) population and employment forecasts by census tract, as published in its Projections '98 Update, and on the regional MTC travel demand model. Ridership propensity, measured in transit trips per unit of population and employment, was established for current data and applied to station area projections. Catchment areas for individual stations were estimated with data from the 1998 BART Passenger Profile Survey. The model also takes into consideration projected automobile congestion by major travel corridor.

BART Fares

An important step in ridership forecasting is to establish the sensitivity of transit ridership to changes in transit fares. BART's last fare change, adopted by the Board in January 1995, consisted of three staged increases, on April 1 of 1995, 1996 and 1997. The last fare increase prior to these was nine years earlier, on January 1, 1986.

The cumulative increase in fares from 1986 to 1998 was 44.7%, less than the 47.1% change in CPI for the same time. The fare change did not appear to cause any significant long-term ridership loss. The SRTP ridership forecast is based upon the current fares and fare structure.

Load Factors

Load factor is defined as the ratio of passengers to seats. The service plans presented in this SRTP should provide sufficient capacity to maintain acceptable load factors for all peak period trains throughout the ten-year planning horizon. The patronage forecast assumes load factors are not so high as to deter patrons from riding BART. The service plans developed for this SRTP are designed to provide service such that where possible the average peak hour, peak direction transbay load factor for the four routes is 1.35 or less. During the peak minutes of the peak hour, some trains will operate at higher load factors, as they do now, due to system throughput constraints.

During the SRTP planning period, average load factors during the two-hour shoulder comprising the remainder of the three-hour peak period are expected to meet the District load factor objective of 1.15 for each route. Offpeak load factors are targeted to average 1.00 or less.

The peak hour transbay load factor has ranged from 1.45 in the mid-1980's to 1.25 in the early 1990s. When measured in March 1999, the evening transbay load factors averaged 1.30 during the peak hour, 1.02 during the two-hour shoulder and 1.13 for the three-hour period. The average morning transbay load factor was 1.33 for the peak hour, 0.98 during the two-hour shoulder and 1.11 for the entire three-hour period.

Travel Times

BART's Advanced Automatic Train Control (AATC), a radio-based train control system currently being installed on some sections of the BART system, is expected to allow headways to be reduced to two minutes, with a peak hour transbay service capability of 30 trains per hour. This improvement is assumed to be operational by FY02 between Daly City Station and Bay Fair Station, the most congested part of the system. An additional benefit of AATC will be reduced train run times, allowing trains to complete their round trips sooner, reducing the number of trains in each route and therefore, the number of cars required for peak period service. This is a more effective and flexible use of BART vehicles. In the event that the planned level of AATC is not implemented or is delayed, alternative service plans have been developed that provide for serving the projected patronage with the available vehicles, although at somewhat higher load factors.

The patronage forecasts are based on assumed further increases in travel time by auto, BART's primary competing mode. This assumption reflects increased highway congestion, as auto travel demand grows faster than programmed increases in highway capacity. This assumption is consistent with future year MTC highway network assumptions.

Extensions

For financial planning purposes, the BART-SFO Extension of rail service south of Colma Station is assumed in this SRTP to have a scheduled revenue operations date of July 2002. This date is consistent with the more conservative financial assumptions assumed in the Federal Transit Administration's (FTA) revised Full Funding Grant Agreement (FFGA). However, BART continues to review the construction contracts with the objective of maintaining a December 31, 2001 revenue operations date.

The FY01 SRTP ridership and operating financial forecasts reflect only the BART-SFO Extension, and do not include operations of any other rail facilities or services identified in BART's FY01 draft CIP. Those projects include the West Dublin/Pleasanton Station, Warm Springs Extension to San Jose Phase 1, BART/Oakland Airport Connector, Pittsburg/Bay Point to Railroad Avenue, West Contra Costa County Extension and extensions to points further east in Contra Costa and Alameda counties. The District continues to seek funding for those projects and will include the anticipated operating financial requirements in subsequent SRTPs according to project implementation schedules.

Station Access

BART plans call for adding 5,337 parking spaces at three of the four BART-SFO Extension stations opening in FY03 and 400 additional spaces at the Dublin/Pleasanton Station in June 2000. Other than these facilities at the new stations and improved access at Dublin/Pleasanton, it is assumed that the relationship between the supply and demand for BART station parking and other access amenities remains unchanged and does not have either a positive or a negative impact on forecast ridership. Historically, BART has had ridership growth at levels similar to this forecast without significant changes to access. Access improvements beyond those planned could increase forecast ridership. It is also assumed that transit services operated by other Bay Area agencies which provide feeder bus services to BART continues at current levels.

Forecast

As shown in Figure 3-1, with current fares remaining constant, average weekday trips are projected to grow from 325,000 in FY01 to 418,000 by FY10. Annual ridership is projected to increase from 94.9 million trips in FY01 to 121.6 million trips by FY10. Annual growth in passenger trips is forecast to slow from the explosive growth experienced by BART over the past few years. Growth on the existing system stations is projected to range from nearly 2% per year in the near term to just over 1% per year by FY10. The four station BART-SFO Extension in FY03 is projected to add approximately 64,000 entries and exits to the average weekday by FY10, bringing the projected overall increase in trips over the nine-year period to nearly 30%.

Figure 3-1 Rail Ridership Forecast

	Average Weekday Trips	Total Annual Trips (millions)
FY 01	325,000	94.89
FY 02	330,800	96.26
FY 03	363,100	105.66
FY 04	375,300	109.21
FY 05	388,300	113.00
FY 06	399,000	116.10
FY 07	403,800	117.51
FY 08	408,700	118.93
FY 09	413,600	120.37
FY 10	418,000	121.64

Future Rail Service Plans

BART's Service Planning Model is used to project the service plan elements for forecast fiscal years. The service plans assume that BART will maintain the same high level of operating performance as discussed in Chapter Two. Achievement of train and customer on-time performance is critical to attainment of the ridership forecast and to service plan operability. The capital improvements funded in BART's FY01 draft CIP are assumed to be in place as scheduled to allow service to be expanded to meet the future demand.

Rail service plans are based on ridership forecasts and operating constraints, such as load factor standards, minimum service headways, train end-to-end run times for train routes, routes to be operated, and modular train sizing rules. Service plan measures include expected load factors, headways, number of trains on each route, total cars required, control cars required, peak trains on line, number of cars in maintenance, car hours and miles, and train hours.

Ridership growth over the SRTP forecast period for both the existing system and extensions will require more efficient and more frequent service than that of today. Figure 3-2, BART Projected Service Plans, summarizes how BART plans to expand service to insure that sufficient capacity is available to accommodate the projected 28% gain in ridership, from 94.9 million trips in FY01 to 121.6 million trips in FY10.

The most important component of the service plans is the addition of nine trains to BART's peak period schedule, increasing the maximum number of online trains from 56 scheduled in FY00 to 65, including one three-car shuttle train from Millbrae Station to SFO. Five of these trains are planned for the peak hour, increasing transbay throughput from 21 trains, in the peak hour schedule currently, to 26 trains. This is possible with AATC, which reduces the system's minimum scheduled headway capability from two and one-half minutes currently, to two minutes or less.

Capital Improvements

Achieving the service expansion required to handle future patronage depends on the timely implementation of BART's Capital Improvement Program as documented in the FY01 draft CIP. This CIP reflects the operational measures and requirements presented in the SRTP. Together, these documents advocate and support BART's grant applications for project funding, system renovation and improvements needed to keep the core system in top condition, complete extensions and implement other upgrades and enhancements needed to support expanded operations. Additional capital improvements, such as crossovers in front of terminal stations, could increase operational flexibility, and reliability, as well as reduce the number of cars required for peak service.

The following are some of the highlights of projects currently underway in the funded Track One program of BART's FY01 draft CIP, which support this service expansion (see CIP for details):

- Complete renovation the original 439 A- and B-cars, midlife overhaul of the C1 cars, and increased inventories of repairable components;
- Station renovation, including replacement and modernization of AFC equipment, escalators and elevators;
- Renovation and replacement of communications and train control systems, including implementation of AATC between Bay Fair and Daly City Stations to support two-minute minimum headways and faster train run times;
- Renovation and expansion of shops and yards, including replacement of maintenance and other essential equipment;
- Renovation and upgrade of the traction power system; and
- Access improvements, including additional bike lockers, and several station area developments.

BART-SFO Extension

Extending south from Colma Station down the San Francisco Peninsula, BART is adding 8.7 miles of new track and four new stations, including a station located inside the San Francisco International Airport (SFO). Through a direct, cross-platform transfer with Caltrain at the Millbrae Station, this extension will connect communities in the East Bay and San Francisco with the 180 miles of Caltrain track in operation on the Peninsula.

The project consists of 6.5 miles of subway, 1.2 miles of aerial trackway, and 1.0 mile of at-grade track. The new stations are being constructed in the communities of South San Francisco, San Bruno, and Millbrae. The fourth station, connecting to SFO at the new International Terminal, is located within a five-minute walk of most airline check-in counters. Passengers will be able to transfer to the Airport Light Rail Transit system to reach other airport destinations. A total of 5,337 parking spaces will be added to South San Francisco, San Bruno and Millbrae. Bus berths, bicycle facilities and other access amenities will also be constructed.

The project broke ground in 1997 and BART continues to manage and review construction contracts with the objective of maintaining a December 31, 2001 revenue operations date. However, for financial planning purposes, this plan assumes a July 2002 revenue operating date, consistent with assumptions in the FTA revised FFGA.

Operating Assumptions

BART's Service Planning Model was used to establish the service frequencies and planned routes to provide service where and when it is needed. The number of routes on each line of the BART system is projected to be sufficient to meet future demand. As demand increases, BART provides additional capacity first by lengthening scheduled trains. As headway reduction capability and expansion and availability of the fleet permit, trains are added and train lengths adjusted. An important objective in creating future service plans is to be able to maintain today's high levels of customer and train on-time, car availability and other operating performance indicators.

In accordance with BART Board policy, base weekday service is assumed to be no less than a train every 15 minutes on each route systemwide. Additionally, it is assumed that base daytime Saturday service will be a train every 20 minutes on each route. Night and Sunday service is assumed to be a train every 20 minutes on three routes: Pittsburg/Bay Point-Transbay, Dublin/Pleasanton-Transbay and Richmond-Fremont. Each route has a color designation depicted on system route maps located in each BART car and station, as well as in information brochures.

Minimum scheduled headway for the Transbay Tube, the section of the system with the heaviest train traffic, is currently two and one-half minutes. These service plans assume that AATC is installed by FY03 on the M- and upper A-Line (Daly City through Bay Fair). If AATC is not implemented or is delayed, alternative service plans have been developed which are capable of serving the projected patronage with the available vehicles, although at significantly higher load factors. In the event that AATC is implemented on additional segments of the BART system, service quality could be further improved due to further reduction in run times. This could allow additional decreases in peak car requirements.

Service plan options for the four-station BART-SFO Extension continue to be evaluated. For this SRTP, car and train requirements are based on the following service assumptions:

- *Pittsburg/Bay Point-Transbay Route*, Yellow Line. Service to Pitts-burg/Bay Point Station is provided at a frequency of no less than a train every 15 minutes north of Concord Station and south of Daly City Station. Higher frequency service is added between Concord and Daly City stations to maintain load factors.
- *Richmond-Transbay Route*, Red Line. Richmond-Transbay service is provided at a minimum weekday base headway of 15 minutes. During the off-peak periods, service on this route terminates at Daly City Station. Currently, during the peak periods only, service extends south of Daly City Station to Colma Station. With the

opening of the BART-SFO Extension, it is anticipated that this route will terminate at Daly City.

- *Fremont-Transbay Route*, Green Line. Service is planned to operate on this route as it is currently, at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Fremont Station.
- *Dublin/Pleasanton-Transbay Route*, Blue Line. Service is currently provided on this route at a minimum weekday base headway of 15 minutes, with trains reversing direction at Daly City Station for the return trip to Dublin/Pleasanton Station. With the opening of the BART-SFO Extension, it is anticipated that this route will extend service south of Daly City at a 15-minute headway.
- *Richmond-Fremont Route*, Orange Line. Service is planned to operate on this route as it is currently, with trains serving the East Bay between Richmond and Fremont stations at 15-minute intervals.
- *Millbrae-SFO Shuttle*, Purple Line. A three-car shuttle will be operated at 15 minute headways between these two stations when service south of Colma Station begins operations.

Load Factors

Required capacity is determined by projected maximum load factors at peak load points. Peak load points are on each route where the largest number of passengers travel between two adjacent stations. The service plans in this SRTP are based on maintaining acceptable peak period load factors on all peak trains. For transbay service, they are averages of 1.35 or less during peak hour operations, 1.15 or less during the three hour peak period, and 1.00 or less during off-peak service, based upon an average of 70 seats per car.

Operational Strategies

BART now uses a modular operating strategy to maximize reliability and flexibility and to minimize labor requirements in the yards for altering train lengths throughout the day. With modular sizing, BART sizes trains on a 4/8, 4/9, and 5/10 car basis for transbay service and on a 3/6/9 car basis for the Richmond-Fremont East Bay route. The transition from the morning peak to midday service, for example, can easily be accommodated by splitting a ten-car train in half to form two five-car trains, or breaking a four-car train from an eight-car or nine-car train. On the East Bay route, nine-car trains can be split up into combinations of three- and six-car trains. The transition from midday to the afternoon peak service involves the reverse procedure.

A slightly modified, semi-modular operating plan will be employed in the future. The change is that, by fitting train sizes more closely to rider loadings, peak revenue vehicle demand will be reduced. The main difference from modular sizing is that instead of operating trains of only two predetermined lengths on a given route, additional train lengths are used on some routes. The vehicle demand reduction can be accomplished without significant changes in passenger load factors. An additional benefit is reduced maintenance requirements. A possible drawback of the change is that slightly more train operator time and expense may be required by the slightly more complex operations.

The project broke ground in 1997 and BART continues to manage and review construction contracts with the objective of maintaining a December 31, 2001 revenue operations date. However, for financial planning purposes, this plan assumes a July 2002 revenue operating date, consistent with assumptions in the FTA revised FFGA.

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The Service Planning Model estimates online car requirements, operating spares, number of cars in maintenance, and the number of control cars required. The number of cars in maintenance is determined by the car hours to be operated and the projected age and rehabilitation status of the fleet. The minimum number of control cars needed is determined by the maximum train count for each route and the requirement to resize trains from peak service train lengths to midday service lengths.

As shown in Figure 3-2, BART's online car requirements are projected to increase from 506 in FY01 to 540 by FY03 with the opening of the BART-SFO Extension, to 572 by FY10, the last year of this planning document. Based on the assumptions used in this forecast BART anticipates having sufficient vehicles to meet projected demand.

The need for maintenance also places demands on the supply of revenue vehicles. Maintenance is performed seven days a week, three shifts a day at each of BART's four shops. During the third quarter of FY00, BART had an average of 82 cars not available for service at 4 a.m. due to preventive and unscheduled maintenance, engineering and modification holds, and those awaiting replacement parts. When complete, the A-and B-Car Renovation Program will reduce the number of incidents requiring maintenance. The capital investment programmed for BART maintenance shops (discussed in the FY01 draft CIP) will also reduce downtime per incident, thus increasing the number of cars available for service. These improvements are expected to reduce the number of cars in for maintenance from 82 to 64 during the ten year period covered by this SRTP.

A- and B-Car Renovation Program

Through FY03, up to 36 vehicles are continually rotated out of the fleet in accordance with the schedule for completing the A- and B-Car Renovation Program. The Total Cars Available line reflects this decrease, with only 633 of BART's 669-car fleet available currently. Once this program is completed in December 2002, the 36 cars will no longer be rotated out the fleet and will be available to meet increased service needs.

Figure 3-2 BART Projected Service Plans

	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Peak Online Trains	56	57	57	60	60	60	63	63	65	65	65
Peak Car Requirements	487	506	506	540	540	540	558	558	571	571	572
Reserves & Yard Logistics	36	36	36	36	36	36	36	36	34	34	33
Total Cars Required	523	542	542	576	576	576	594	594	605	605	605
Total Cars Available	633	633	633	669	669	669	669	669	669	669	669
Balance for Maintenance and Contingencies	110	91	91	93	93	93	75	75	64	64	64

Other BART Extension/Expansion Projects

Additional BART extension or expansion projects not reflected in this SRTP's Service Plans or the Financial Plans include:

West Dublin/Pleasanton Infill Station

The construction of a new infill station in the median of I-580 on the Dublin/Pleasanton line has been the focus of a unique partnership involving BART, the Cities of Dublin and Pleasanton, and Jones Lang LaSalle, a private development company. Through this public/private effort, with LaSalle as the master developer of mixed-use private transit-oriented development at the station, BART and the public will realize a station significantly ahead of any public funding cycle. The development may include a mixture of market-rate residential units, a hotel, and office space. The BART capital contribution to this project is to be funded by a bond issue. Debt service is anticipated to be covered by station generations of passenger revenues as well as property lease revenue, and incremental tax revenue generated by the private development. Other funding options continue to be explored. The station, projected to open by FY03, is intended to provide a better physical connection between BART and the surrounding communities, enhance the use of transit service, and stimulate revitalization of the surrounding areas.

Warm Springs Extension to San Jose Phase 1

The Warm Springs Extension is the only remaining unbuilt extension in Phase 1 of BART's Extension Staging Policy and is identified in BART's CIP under the Track One capital program. There is growing regional interest in making this project Phase 1 of an extension to San Jose. The proposed reauthorization of the Alameda County Transportation Sales Tax (Measure B) in 1998 includes $165.5 million for a BART/Rail Extension to Warm Springs, which would significantly reduce the funding

shortfall on this project. Alameda County is planning to put the reauthorization of Measure B on the ballot in November 2000.

Oakland Airport Connector

In conjunction with the Port of Oakland, BART is seeking funds to construct a 3.2-mile connection between the Coliseum Station and the Oakland International Airport, possibly using Automated Guideway Technology. The current AirBART bus system carries 400,000 passengers and airport workers annually. However, this system already operates at 90% capacity, and will become less effective as travel demand and road congestion in this corridor increase. The Connector, a solution favored by the Port of Oakland and the Coliseum community, is projected to carry 3.3 million people per year by 2010 and transport passengers five times faster than ground-based transit. It will do so with increased reliability and convenience, if the proposed project is implemented, by operating on an elevated guideway for most of the trip. The proposed Alameda County Measure B includes $65.8 million for the Connector project.

Capitol Corridor

Through the enactment of the Intercity Passenger Rail Act of 1996, BART, along with five other transportation agencies in Northern California, formed the Capitol Corridor Joint Powers Authority (CCJPA) and assumed management of the Capitol Corridor (Colfax-Sacramento-Oakland-San Francisco-San Jose) intercity rail service on July 1, 1998. BART, managing agency for the CCJPA, oversees the contracts for the train operations and dedicated feeder bus routes and coordinates the interface of the service with 12 public transit bus systems, at least 16 intercity bus routes and five other rail systems. Goals of the CCJPA include working with local and regional transportation providers to ensure seamless, multi-modal connections and providing more service at the existing level of funding by investing cost savings to improve and add service in the corridor. The Richmond Station connects Capital Corridor trains to the BART system. A future objective for the CCJPA is to extend the reach of the Capital Corridor rail service with dedicated feeder bus service to San Francisco, Reno, Nevada City, South Lake Tahoe, Santa Cruz, Monterey/Carmel and Santa Barbara.

Chapter Four

OPERATING FINANCIAL PLAN

BART's operating financial plan for FY01 through FY10 focuses on the fiscal requirements for providing service as described in Chapter 3. The Strategic Plan guided decision making processes for the allocation of resources in the face of tremendous demand for service, maintenance, and improvement, both in the current fiscal year budget development and in future operating financial plans.

The financial plan was developed with an emphasis on the focus areas of the Strategic Plan and in conformance with the MTC's guidelines for preparing SRTPs. Key guidelines specify that SRTPs be financially constrained and balanced, and that they include the MTC's forecasts for regional funding and unit cost growth. BART's SRTP financial plan reflects these considerations. Sources are identified for revenue, expense, financial assistance, debt service, and other required allocations. The underlying assumptions upon which the SRTP forecast is based are also discussed.

In this chapter, BART's Fiscal Planning Principles are discussed first, followed by the FY01 Revised Preliminary Operating Budget, foundation for the ten-year projections. Next is a discussion of the District's financial forecasts for FY01 through FY10, including projected Financial Performance Indicators. Chapter Four concludes with a discussion of Alternative Futures, and the possible implications for BART.

It should be noted that the following financial plan includes the impact of the Colma and BART-SFO Extension operating cost formulas contained in the BART-SamTrans Comprehensive Service Agreement Amendment dated June 20, 1996, and the BART-SamTrans-MTC Memorandum of Understanding dated March 11, 1999. Analysis indicates that the implementation of the BART-SFO Extension, in accordance with the terms of these documents, will not negatively impact the District's financial capacity to operate and maintain its existing system.

Fiscal Planning Principles

As presented in the following sections, BART's Revised Preliminary Operating Budget for FY01 is the foundation for the SRTP financial plan for fiscal years 2002 through 2010. The discussion below turns to the principles guiding the development of the financial plan. This presentation is followed by a general discussion of BART's overall fiscal needs in the upcoming ten-year period. With the principles and needs outlined, details are presented for the base SRTP financial forecast.

Principles for Developing the Financial Plan

BART's financial plan for fiscal years 2001 through 2010 was developed in conformance with the MTC's guidelines for preparing SRTPs. These guidelines include the key requirements that the overall SRTP financial plan be fiscally constrained, balanced, and offer a scenario conforming to the MTC's forecasts for regional financial assistance and CPI growth. Accordingly, BART's financial plan is predicated on the following principles:

- The forecast for passenger revenue should be based on ridership projections, derived in part from ABAG/MTC regional growth and transportation models, and should reflect latest regional transportation conditions. *The forecast for passenger revenue begins with BART's evaluation of existing system ridership. This basis is supplemented by an assessment of the most recent ABAG and MTC data available, current conditions, and projected impacts. Further, the forecast of passenger revenue incorporates ridership projections for the BART-SFO Extension, which are identified in adopted environmental documentation. The SRTP financial plan assumes that fare levels are maintained at their current rates.*
- The forecast for non-fare revenue should be realistic and achievable. *The forecast for revenue derived from sources other than passenger fares is also based on BART's projections. Sources for this revenue are either existing, programmed, or highly likely to be implemented, and are generally assumed to grow at an annual 3.0% CPI rate for the entire SRTP planning period.*
- The forecast of operating expense should reflect planned service levels, anticipated one-time or recurring new fiscal requirements, and overall improved levels of productivity. *The forecast of expense was developed using BART's Operations and Maintenance Cost Model, and reflects the fiscal requirements of providing the service levels described in Chapter 3. All unit costs are assumed to grow by the rates included in executed agreements or by a 3.0% annual CPI factor where no agreements apply.*
- The forecasts for regional sources of financial assistance should include the MTC's projections. *The MTC's preliminary long-term forecast for average annual sales tax growth in the three BART counties is 4.8%.*
- The forecasts for other sources of financial assistance should be conservatively projected and based on historical data. *The forecast for property tax is based upon 4.0% annual growth, based on the long-term average growth rate for this revenue source.*
- The forecasts for debt service and allocations to capital should be based upon realistic, sustainable projections. *Debt service requirements on outstanding bonds determine annual expense. Terms of future bond sales are based upon the latest available financial data. Capital allocations are based upon annual capital needs and the projected ability of the operating budget to provide funding.*
- The forecast anticipates that BART will implement both cost containment and revenue enhancement measures during the ten-year horizon, based upon past financial performance. *The plan assumes some combination of cost containment and revenue enhancement totaling approximately 2% of the entire ten-year program can reasonably be expected and achieved by BART.*

These financial planning principles, in effect, establish overall parameters for the expenses BART is likely to incur in relation to its sources of income.

The FY01 Revised Preliminary Operating Budget

The foundation of the SRTP ten-year financial plan is BART's revised preliminary budget for FY01, the operating portion of which is summarized in Figure 4-1. The FY01 Revised Preliminary Operating Budget funds BART's rail service, ADA paratransit service, bond debt service for systemwide renovation, and other needed allocations. The budget includes $407.3 million in operating revenue and financial assistance, balancing an equal amount of operating expenses, debt service, and capital allocations.

During FY00, Strategy Teams, comprised of interdisciplinary and interdepartmental BART staff, worked together to develop Action Plans. This process is where the vision statement, the mission statement and the goals defined in the Strategic Plan began to formulate into finite action plans. The FY01 Revised Preliminary Operating Budget provides funding for some of the Action Plans supporting the following focus areas of the Strategic Plan.

- The BART Customer Experience
- Building Partnerships for Support
- Transit Travel Demand
- Land Use and Quality of Life
- People of BART
- Physical Infrastructure
- Financial Health

The FY01 Revised Preliminary Operating Budget proposes new funding to ensure maintenance of quality service for the increased level of passengers, as well as increased funding for capital and operating improvement programs. The preliminary budget, developed in March 2000, was revised in early May when it became apparent that average weekday ridership was 5,000 trips higher than initially projected. The projected $3.3 million increase in net rail passenger revenue is proposed to fund additional operating enhancements to maintain and improve current service quality, given the new anticipated demands on the system.

FY01 Operating Revenue

Operating revenue consists of passenger fares, net of discounts offered on certain passenger ticket types, and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Figure 4-1 Revised Preliminary FY01 Operating Budget

BART Operating Budget	FY99 Actual	FY00 Revised Budget	FY01 Revised Preliminary Budget
REVENUES			
Net Rail Revenue	$ 173,086,742	$ 184,500,000	$ 200,062,714
Paratransit	397,533	500,000	425,000
Net Passenger Revenue	**$ 173,484,275**	**$ 185,000,000**	**$ 200,487,714**
Interest Revenue	8,944,223	8,500,000	9,000,000
Other Operating Revenue	8,820,118	9,083,500	9,686,183
TOTAL OPERATING REVENUE	**$ 191,248,616**	**$ 202,583,500**	**$ 219,173,897**
EXPENSES			
Net Labor	$ 215,734,541	$ 226,616,500	$ 239,805,372
Express Bus Service	1,905,402	2,309,000	2,855,476
Shuttle Service	82,335	105,000	-
ADA Paratransit Services	5,561,530	6,430,000	6,622,881
Purchased Transportation	2,621,730	3,184,600	3,358,617
Traction & Station Power	15,910,595	18,000,000	17,705,000
Other Non-Labor	52,274,771	58,807,100	66,637,000
TOTAL OPERATING EXPENSES	**$ 294,090,904**	**$ 315,452,200**	**$ 336,984,346**
OPERATING DEFICIT	**$ (102,842,288)**	**$ (112,868,700)**	**$ (117,810,449)**
TAX & FINANCIAL ASSISTANCE			
Sales Tax Proceeds	$ 151,805,599	$ 159,165,000	$ 170,955,223
Property Tax	14,438,223	15,200,000	15,912,000
TDA & Other Assistance	450,624	703,700	1,224,814
TOTAL TAX & FIN. ASSISTANCE	**$ 166,694,446**	**$ 175,068,700**	**$ 188,092,037**
DEBT SERVICE & ALLOCATIONS			
Operating Reserve Allocation	$ -	$ 3,200,000	$ -
Debt Service Allocations	$ (42,241,608)	$ (46,300,000)	$ (50,481,588)
Capital Allocations	(21,500,000)	(19,100,000)	(19,800,000)
TOTAL DEBT SERVICE & ALLOC.	**$ (63,741,608)**	**$ (62,200,000)**	**$ (70,281,588)**
FINANCIAL RESULT	**$ 110,550**	**$ -**	**$ -**
Rail Farebox Recovery Ratio	61.0%	60.8%	61.7%
Farebox Recovery Ratio	59.0%	58.6%	59.5%
Operating Ratio	65.0%	64.2%	65.0%
Average Weekday Ridership	278,689	298,758	325,000
Passenger Miles (000)	1,056,714	1,132,042	1,226,084
Rail Cost/Passenger Mile	26.9¢	26.8¢	26.4¢

Net Passenger Revenue

Net rail passenger revenue for FY01 is budgeted at $200.1 million, and is 4.5% higher than FY00's year-end estimate of $191.5 million. This projection reflects a slight increase over the tremendous gain in ridership experienced during FY00. ADA paratransit service passenger revenue is budgeted at $0.4 million in FY01, relatively flat from the FY00 year-end estimate.

Non-Fare Revenue

BART also derives operating revenue from sources other than passenger fares. These categories include fiber optic joint development agreements, pay telephone, concession agreements, and advertising in the BART system. Rental and lease agreements of BART property and parking collections both at Lake Merritt Station and special events at Coliseum Station also generate revenue. BART Police citations also generate fine and forfeiture revenue. Revenue from all these sources is budgeted at $9.7 million in FY01.

Interest income on operating fund balances is budgeted at $9.0 million in FY01, based upon actual revenues for year-to-date FY00.

FY01 Operating Expense

Total operating expense for FY01 is budgeted at $337.0 million and reflects an increase to the base budget level for expenses related to the higher ridership, as well as operating investments to improve system performance and maintain customer satisfaction. The May revision to the Preliminary Operating Budget is intended to provide additional peak period train service, more station agents and police officers at high volume stations, more frequent interior car cleaning, and a new customer ombudsperson position. Additionally, the physical infrastructure of selected high-volume stations will be improved with thorough cleaning, painting, replacement of platform edge tiles, and signage repair.

Labor Expense and Staffing

Labor expense is budgeted at $239.8 million in FY01. This figure includes the contractual 4.0% wage increases for BART unions, plus increases in benefit costs for all bargaining units. Thirty-eight new positions are budgeted in FY01 to respond to the previously mentioned focus areas of the Strategic Plan and service improvement. Total operating staff is budgeted at 3,106 heads. The increases in labor costs and staffing are partially offset by a temporary cessation of the District's contribution to the Public Employees Retirement System (PERS), first realized in FY00 and continued in FY01.

Express Bus and Shuttle Bus Expense

Authorized in 1996, California Senate Bill 1474 required consolidation of certain functions to improve the efficiency of regular transit service and improvements in service effectiveness through reduction of duplicative services. Per a regional cost sharing agreement, BART is scheduled to pay the local operators providing feeder

service in its former BART Express Bus corridors $2.9 million in FY01. The AirBART shuttle service from the Coliseum Station to the Oakland International Airport is expected to cover its operating expenses with passenger revenues, as it is doing in FY00, and therefore will not result in any expense to BART in FY01.

ADA Paratransit Service Expense

ADA paratransit services are budgeted at $6.6 million in FY01 based on recent regional paratransit service forecasts.

Purchased Transportation Expense

The Muni Transfer Payment expense is a reimbursement to Muni for providing feeder bus service to BART stations in San Francisco. The current agreement ties this payment to the growth in sales tax experienced in the prior fiscal year. This expense is budgeted at $2.4 million in FY01.

Ridership projections indicate that approximately 3.9 million trips will either originate or end at the Colma Station during FY01, generating $8.4 million in net rail passenger revenue. After taking into account both Colma Station riders diverted from the Daly City Station and net Colma operating expenses per the June 1996 BART-SamTrans Comprehensive Agreement, the FY01 Revised Preliminary Operating Budget projects that $1.0 million in net operating revenues will be returned to SamTrans. The FY00 year-end estimate projects $1.0 million will be returned to SamTrans.

Power Expense

Traction and station power expense (including lease costs of power substations) constitute approximately 5.3% of the District's operating budget. Following a FY00 decrease of 13.2% from the FY99 budget, power expense is expected to decline an additional 1.6% in FY01, from FY00's budget of $18.0 million to $17.7 million in FY01. This FY01 power expense savings is due to a reduction in the cost of delivering federal power to BART. Actual power expense for FY00 is expected to be approximately $18.0 million.

Other Non-Labor Expense

This category of expense includes materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous items. These non-labor expense line items are budgeted at $66.6 million in FY01, including a 3.0% inflation adjustment, compared to the FY00 year-end estimate of $58.9 million. The increased funding will be used primarily for materials to maintain and improve vehicle reliability and provide service for the higher ridership, and technology improvements.

FY01 Financial Assistance

The District's FY01 Revised Preliminary Operating Budget includes $188.1 million from all sources of financial assistance, 3.8% over FY00's actual/estimated financial assistance of $181.1 million. The sources of this funding are as follows:

Sales Tax Financial Assistance

The sales tax rates in the current three District counties include a 0.5% tax dedicated to transit operating subsidies. BART receives 75.0% of this amount, with the remaining 25.0% shared by Muni and AC Transit. The FY01 budget of $171.0 million for sales tax financial assistance reflects 4.8% growth over a revised FY00 base of $165.1 million, less $2.0 million of projected one-time receipts in FY00.

Property Tax Financial Assistance

BART also receives a portion of property tax proceeds in the three District counties to cover operating expenses. The FY01 Revised Preliminary Operating Budget sets property tax revenue at $15.9 million, 4.0% higher than FY00's estimated collection of $15.3 million.

State Transportation Assistance / Transportation Development Act Assistance

State Transportation Assistance (STA) is discretionary state funding based upon population within the BART service area. The Transportation Development Act (TDA) assistance is generated by one-quarter of the 6.0% state sales tax. Revenue generated by this tax has to be returned to service within the county of origin. As part of its agreement with local operators to take over BART express bus service, BART will not be claiming the bulk of its STA and TDA financial assistance apportionment for which the District is eligible. The MTC's FY01 proposed apportionment of regional assistance funds does, however, include $1.2 million in Alameda County TDA Article 4.5 funds, which BART will claim to fund its rail and paratransit operating expenses within Alameda County.

FY01 Debt Service and Allocations

BART's financial requirements have traditionally included allocations from its operating budget for funding certain obligations. These obligations include bond debt service as well as direct contributions to the District's capital program. These line items are discussed as follows:

Sales Tax Revenue Bond Debt Service

FY01 bond debt service is projected to be $50.5 million. This includes $41.0 million in debt service for bonds sold in 1990, 1991, 1995, and 1998, as well as $7.2 million from the 1999 bond sale and $2.3 million for a bond sale planned in early FY01. The 1999 bond sale funded approximately $90 million for capital improvements, including the A & B-Car Renovation Program, as well as $24.6 million for a capital reserve account (CAPRA) for the BART-SFO Extension and approximately $13 million for rehabilitation of the District's maintenance facilities. The annual debt service will be paid from sales tax revenues. The CAPRA portion expense is being reimbursed from

the annual generations of the 76¢ San Mateo County Surcharge collected at Daly City Station.

Capital Program Allocations

In line with the FY01 Capital Improvement Program, the FY01 Revised Preliminary Operating Budget projects an $19.8 million direct allocation to capital from operating sources, for uses other than for the bond debt service identified above. Since FY97, BART's operating program has contributed over $60 million to the capital program, funding such improvements as the C-1 Car Mid-life Overhaul Program and critically needed ongoing work equipment purchases.

FY01 Financial Result and Indicators

The District's FY01 Revised Preliminary Operating Budget is balanced, with sources of income equal to expense. Budgeted financial performance is comparable to levels achieved in prior years, and reflects efforts to contain costs and improve productivity as ridership rises far faster than anticipated.

The farebox ratio is defined as net passenger revenue divided by operating expenses. For the District's rail operations, this ratio is projected to decrease slightly from a year-end estimate of 63% in FY00 to 62% budgeted for FY01. This decrease is due mainly to the fact that contractual wage increases and costs of benefits are greater than the projected increase in ridership. Based on actual experience, ADA paratransit service is forecast to have a 6% farebox ratio. The systemwide farebox ratio, which includes both modes, is budgeted to be 59% in FY01, decreasing slightly from FY00's year-end estimated of 61%.

The system operating ratio is defined as total operating revenue, including revenue from non-passenger sources such as advertising and interest, divided by total operating expenses. In FY01 this ratio is budgeted to result in a 65% operating ratio, compared to the 67% operating ratio estimated for FY00.

BART's rail cost per passenger mile is estimated to equal 25.8¢ for FY00. The FY01 Budget calls for this measure to increase slightly to 26.4¢ per passenger mile, as a full year of expenses are realized on service and programs added to maintain and improve high quality service for increased riders.

Base Financial Forecast and Assumptions

The following sections present individual elements contained in BART's base financial forecast for FY02 through FY10. As shown in Figure 4-2, the base forecast builds upon the District's FY01 Revised Preliminary Operating Budget and consists of fiscal year projections for revenue, expense, financial assistance, debt service, and other required allocations. The process used to develop the base forecast and the underlying assumptions for its elements are discussed below.

Figure 4-2 BART Financial Forecast

All figures in $000 of dollars	FY01 Rev Prelim Budget	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
REVENUE										
Net Rail Passenger Revenue	200.1	204.5	229.6	238.4	248.0	255.8	259.1	262.6	266.0	269.0
BART-SFO Extension Net Surcharges	0.0	0.0	5.6	6.5	7.6	8.6	8.7	8.8	8.9	9.1
ADA Service Passenger Revenue	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total Net Passenger Revenue	200.5	205.0	235.7	245.5	256.1	264.8	268.3	271.9	275.4	278.6
Interest Revenue	9.0	9.3	9.5	9.8	10.1	10.4	10.7	11.1	11.4	11.7
Fiber Optic Revenue	3.4	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4
Other Operating Revenue	6.3	6.5	6.7	6.9	7.1	7.3	7.6	7.8	8.0	8.3
Subtotal Non-Fare Revenue	18.7	19.4	19.9	20.5	21.1	21.8	22.4	23.1	23.7	24.4
Total Operating Revenue	219.2	224.3	255.7	266.0	277.2	286.6	290.7	294.9	299.1	303.0
EXPENSE										
Net Labor	239.8	252.7	279.4	291.5	307.2	322.6	335.0	351.1	365.2	379.5
Traction/Station Power	17.7	18.1	20.9	21.5	22.2	23.2	23.9	25.1	25.8	26.6
SFIA Rent	0.0	0.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other Non-Labor	66.6	70.9	73.0	75.3	78.8	81.9	85.2	88.3	92.4	95.1
Subtotal Net Rail Expense	324.1	341.7	375.9	390.9	410.6	430.2	446.6	467.0	485.8	503.7
Feeder Bus Service	2.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Purchased Transportation (MUNI)	2.4	2.4	2.6	2.7	2.8	2.9	3.1	3.2	3.4	3.6
Purchased Transportation (SamTrans)	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADA Paratransit Service	6.6	6.8	7.7	8.0	8.2	8.5	8.7	9.0	9.3	9.5
Subtotal Non-Rail Expense	12.8	12.6	12.8	13.2	13.5	13.9	14.3	14.7	15.1	15.6
Total Operating Expense	337.0	354.2	388.7	404.0	424.1	444.1	460.9	481.7	501.0	519.3
OPERATING DEFICIT	(117.8)	(129.9)	(133.0)	(138.1)	(146.9)	(157.5)	(170.2)	(186.8)	(201.9)	(216.3)
FINANCIAL ASSISTANCE										
Sales Tax Proceeds	171.0	179.2	187.8	196.8	206.2	216.1	226.5	237.4	248.8	260.7
Property Tax Proceeds	15.9	16.5	17.2	17.9	18.6	19.4	20.1	20.9	21.8	22.6
STA & TDA Assist for ADA & Gen Op	1.2	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total Financial Assistance	188.1	196.4	205.7	215.4	225.5	236.2	247.3	259.0	271.2	284.0
DEBT SERVICE & ALLOCATIONS										
Sales Tax Revenue Bonds	(48.1)	(48.3)	(50.2)	(50.3)	(50.4)	(50.6)	(50.7)	(50.9)	(51.0)	(51.2)
FY01 A&B-Car Bonds	(2.3)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.1)
FY02 SF CAPRA Bonds	0.0	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)
BART-SamTrans Allocation to EBay Ext.	0.0	0.0	(4.4)	(9.0)	(14.6)	(19.1)	(18.5)	(17.8)	(17.2)	(16.5)
Capital Program Allocations	(19.8)	(12.1)	(12.5)	(12.8)	(13.2)	(13.6)	(14.0)	(14.4)	(14.9)	(15.3)
Total Debt Service & Allocations	(70.3)	(67.1)	(73.7)	(78.9)	(85.0)	(90.1)	(90.0)	(89.9)	(89.8)	(89.8)
COST CONTAINMENT & REVENUE ENHANCEMENT	0.0	0.6	1.1	1.6	6.4	11.4	12.8	17.7	20.5	22.0
ANNUAL FINANCIAL RESULT	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Operating Revenue Forecast

Operating revenue consists of passenger fares net of discounts and revenue derived from sources other than fares. Revenue sources are identified and discussed as follows:

Rail Passenger Revenue

The rail ridership forecast presented in Chapter Three is the basis for projecting rail passenger revenue. Projections of passenger origins and destinations allow the development of gross fare revenue based upon BART's distance based fare formula. The gross fare revenue projections are reduced by BART's average discount rate, which nets out the revenue reduction due to discounts offered on certain types of passenger fares. Based on the methodology described above, rail passenger revenue is projected to increase annually, from $200.1 million in FY01, to $269.0 million in FY10.

Trips beginning or ending at stations in San Mateo County are identified as part of a separate analysis to determine the level of San Mateo County surcharges included in the BART-SFO Extension Net Surcharge line. The SRTP includes the surcharge provisions from the BART-SamTrans-MTC Memorandum of Understanding (March 1999), the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (June 1997), the Lease, Use, and Operating Agreement with the San Francisco International Airport (April 1997), and the BART-SamTrans Comprehensive Agreement (June 1996).

SamTrans will be responsible for paying any net operating deficit on the BART-SFO Extension. BART and SamTrans have agreed, however, to continue the 76¢ San Mateo surcharge (currently imposed at the Daly City and Colma Stations) on the extension's four additional stations. These surcharges are projected to raise sufficient revenue to cover extension operating costs and generate a surplus to be pledged to meeting SamTrans remaining buy-in commitment to BART's Eastbay Extensions program.

The Lease, Use, and Operating Agreement with the San Francisco International Airport (SFO) will require BART to pay $2.5 million in annual rent to SFO. The Agreement also requires that airline employees using the SFO Station receive a 25% discount off their fares. This rental payment and the revenue loss from the airline employee discount is assumed to be funded from a small additional fare surcharges at all six of BART's San Mateo County stations.

Additionally, with the initiation of revenue service on the BART-SFO Extension, the District plans to implement an additional $1.50 surcharge on all trips using the SFO Station. Per the terms of the FFGA with the FTA, the incremental revenues associated with these surcharges will be pledged towards a $79.2 million CAPRA. The imposition of this $1.50 surcharge, in conjunction with the other surcharges imposed at this station, is projected to result in a 15% fare-elasticity driven reduction to the FEIR/FEIS FY10 ridership estimate of 17,800 daily entries and exits.

The proceeds from these additional surcharge are included in the BART-SFO Extension Net Surcharges line of Figure 4-2. The incremental revenue associated with these new surcharges are estimated to be nearly $5.6 million in FY03, growing to $9.1 million by FY10.

ADA Paratransit Passenger Revenue

Projected passenger revenue for ADA paratransit service reflects current and anticipated cost-sharing agreements BART has with other Bay Area transit operators. After the first full year of ADA compliance in FY98, ADA paratransit passenger revenue forecasts assume that ridership for this service grows by approximately 1.0% per year. BART's forecast for ADA paratransit passenger revenue is $0.4 million in FY01, growing to $0.5 million by FY10.

Other Operating Revenue

Approximately one third of BART's non-passenger fare revenue is generated through concessions, advertising, rent and lease agreements including joint development, parking collections (currently at Lake Merritt Station and Coliseum special events only), fines and forfeitures, and miscellaneous other sources. The total amount of revenue from these sources is forecast to grow by the projected 3.0% annual CPI growth rates, from $6.3 million in FY01 to $8.3 million by FY10. Additional operating revenue is generated by telecommunications fiber optics agreements. Revenue for current contracts is anticipated to yield $3.4 million in FY01 and increase to $4.4 million by FY10. The potential for additional revenue generation exists, however, only revenue from signed contracts is included in the SRTP financial forecast. The remaining non-passenger revenue is derived from interest earnings on operating fund balances. This source of revenue is forecast to generate $9.0 million in FY01, increasing by CPI to $11.7 million by FY10.

Total Operating Revenue

Based on the forecasts for passenger and non-passenger revenue line items discussed above, BART's total operating revenue is projected to grow from $219.2 million in FY01 to $303.0 million in FY10.

Operating Expense Forecast

Forecasts of fiscal year operating expense were prepared using BART's Operating and Maintenance Cost Model. The model output was calibrated to the FY01 Revised Preliminary Operating Budget, with adjustments made to reflect expense reduction measures, non-linear expense items, and anticipated revisions to unit costs. Inputs to the cost model reflect the projected service levels for rail operations, as discussed in Chapter 3. Other expenses, such as ADA paratransit, were added to the modeled forecast.

Key inputs to the Operating and Maintenance Cost Model include:

- Annual passenger trips
- Route miles of track and number of routes
- Number and configuration of stations (i.e., subway, at-grade, etc.)
- Peak online trains and cars
- Number of cars in the fleet
- Annual car miles/hours
- Annual train hours

Additionally, the model input includes assumptions for the projected CPI. The FY01 SRTP assumes a 3.0% annual CPI growth rate.

Staffing and Labor Expense

Labor expense growth reflects the annual wage, salary, and benefit increases included in the FY98 through FY01 adopted labor agreements. Wage costs after FY01 are projected to grow by the 3.0% inflation rate. Benefit costs, particularly active employee and retiree medical expenses, are expected to grow faster than the 3.0% CPI growth rate. In addition, labor expense growth reflects the increases in staff needed for expanding system operations for extensions and growing service levels. The largest increase in staffing is forecast to occur in FY03, when BART-SFO Extension service is targeted to begin. Labor expense is forecast to grow from $239.8 million in FY01 to $379.5 million in FY10. These figures assume that the employer contributions to the PERS retirement system that were suspended effective FY00 resume in FY05 at approximately 30% to 70% of the pre-FY00 contribution rate, based upon an actuarial study commissioned by PERS, which concluded BART might have to resume PERS expense by FY05.

Traction and Station Power Expense

Future power expense is a model output, and is forecast largely on the basis of car hours and miles, and number of stations. The basic cost per unit of power is assumed to be flat in FY02, compared to FY01, per the remaining two years of a tentative five year Pacific Gas & Electric rate freeze. From FY03 to FY10, the basic cost per unit of power is assumed to grow at 3.0% annually. The projected amount of power consumption is scheduled to increase with the opening of the BART-SFO Extension in FY03 and also with changes in forecast service levels. Annual power expense, based upon forecast service levels, is projected to be $26.6 million by FY10.

San Francisco International Airport (SFO) Rental Payment

As discussed in the Operating Revenue Forecast section, it is assumed that BART will implement a small surcharge at its six San Mateo County stations for the purpose of making a $2.5 million annual rental payment to SFO. This payment will begin with the commencement of revenue service and will remain at $2.5 million per year over a 50-year period.

Other Non-Labor Expense

Materials usage, professional and technical services, rental and maintenance contracts, insurance, utilities other than traction and station power, and other miscellaneous expenses are forecast to increase from $66.6 million in FY01 to $95.1 million in FY10.

Express Bus Service Expense

In accordance with the negotiations with the MTC and the local bus operators serving BART's former express bus corridors, BART makes a $2.5 million annual payment to the local operators. This payment helps compensate these local bus operators for the net operating losses associated with taking over passenger service in these corridors.

Purchased Transportation (Muni)

The formula, which defines the reimbursement for providing feeder service to BART from Muni, is tied to BART District sales tax growth. Purchased transportation expenses for Muni transfers are forecast to grow from $2.4 million in FY01 to $3.6 million in FY10.

Purchased Transportation (SamTrans)

BART is obligated by the BART-SamTrans Agreement to pay to SamTrans any fare surcharge revenues collected at its Colma Station which are not required to cover the District's cost of providing service to this station. A net operating revenue payment of $1.0 million is budgeted for FY01. This amount is projected to decrease to $0.8 million in FY02 as marginal costs grow by inflation and fare revenue growth levels out. Per the BART-SamTrans-MTC MOU dated March 11, 1999, all of the first $145 million in net operating revenues on the BART-SFO Extension (including the Colma Station) are directed not towards SamTrans, but towards meeting obligations to BART's Eastbay Extensions program.

ADA Paratransit Service Expense

Expense for ADA paratransit service assumes the current and anticipated cost-sharing agreements BART has, or will have, with other Bay Area transit operators through FY10. ADA expenses are assumed to increase by the combined growth in inflation and the number of stations in the BART system. On this basis, ADA paratransit expense is forecast to grow from $6.6 million in FY01 to $9.5 million in FY10.

Total Operating Expense

Based on the forecasts for the above expense categories, BART's total operating expense is projected to be $337.0 million in FY01 growing, by the combination of system expansion, CPI growth, and other agreements to $519.3 million in FY10.

Financial Assistance Forecast

Financial assistance to support BART operations comes from a variety of sources as were identified in the FY01 Revised Preliminary Operating Budget portion of this

chapter. The forecast for financial assistance through FY10 is discussed in the following sections:

Sales Tax Financial Assistance

Sales tax revenue is the single largest source of financial assistance the District receives for operations. The long term forecast for annual sales tax growth is 4.8% through FY10. This forecast is based on the MTC's regional growth rate projections for sales tax revenue in the three-county BART district and it approximates the District's long term sales tax growth rate. With these growth factors the amounts collected are projected to be $171.0 million in FY01, and growing to $260.7 million in FY10.

Property Tax Financial Assistance

Property tax revenue generated in the three-member District counties is assumed to grow 4.0% annually between FY01 through FY10. Financial assistance from property taxes is forecast to be $15.9 million in FY01, growing to $22.6 million in FY10.

State Transportation Assistance & Transportation Development Act Financial Assistance

Since STA is discretionary, population-based assistance and TDA is tied to sales tax collections, the amount available for BART to claim tends to be uneven in its annual generations. This small amount of assistance is, consequently, assumed to average $0.7 million annually between FY02 and FY10. This assistance can be programmed for general operating expenses as well as BART's ADA paratransit program.

Total Financial Assistance

Total financial assistance from all of the above sources is projected to grow from $188.1 million in FY01 to $284.0 million in FY10.

Debt Service and Allocations

BART's base financial forecast includes fiscal obligations from operating sources for debt service and other required allocations. These items are discussed in the following:

Sales Tax Revenue Bond Debt Service

Annual bond debt service backed by sales tax financial assistance is projected to be $55.0 in FY02, increasing to $57.9 million by FY10. This includes $3.6 million annual debt service for one additional bond sale planned in early FY01, to fund a portion of the A & B-Car Renovation Program.

SFO Capital Reserve Account Debt Service

The FFGA for the BART-SFO Extension, secured in June 1997, includes a requirement that BART set aside funds in a CAPRA dedicated towards paying for potential ineligible costs on the BART-SFO Extension. An amendment to this

agreement, currently under review by the FTA, would revise the project budget and bring this CAPRA into the project budget. This $79.2 million former CAPRA is one of the funding sources necessary to fund the $316.2 million entirely locally funded increase in the project budget.

The $79.2 million CAPRA set aside consists of two components: direct allocations from the operating budget and the sale of revenue bonds backed by sales tax revenues, replenished to the operating budget by fare surcharges. To date, $7.5 million in direct capital allocations have been made to the CAPRA. The 1999 bond sale also netted $24.6 million for the CAPRA. Debt service on this is funded by sales tax revenues and reimbursed by the 76¢ San Mateo County Surcharge at Daly City Station. An additional bond sale is planned for FY02, with total proceeds anticipated to equal $47.1 million. The corresponding debt service for this bond sale is projected to be approximately $3.6 million per year. The sales tax backed debt service for this bond sale will be reimbursed by the additional $1.50 surcharge on all trips using the SFO Station.

BART-SamTrans Agreement Allocation to East Bay Extensions

Beginning in FY03 with the opening of the BART-SFO Extension, the District will transfer net operating surplus revenues generated from this service towards the District's Eastbay Extensions program. In FY06, the fourth year of operations, the surplus is projected to reach $19.1 million. These surpluses are then expected to decline slightly, as fare revenue growth is outpaced by the growth in operating costs attributed to the BART-SFO Extension by the detailed fully allocated cost formula included in the BART-SamTrans Comprehensive Agreement. Surpluses will accrue entirely to BART's East Bay Extensions Program until all of SamTrans $145 million remaining buy-in commitment is liquidated. Annual surpluses thereafter will be used to repay loans made to the BART-SFO Extension per the BART-SamTrans-MTC 1999 Memorandum of Understanding.

Capital Program Allocations

The base financial forecast includes a cumulative allocation of $142.7 million between FY01 and FY10 to support the District's Capital Improvement Program (CIP) fiscal needs. These allocations will support projects for which no outside funding is projected to be available, or may provide crucial local match funding for state, regional, and federal grants. Allocations are currently projected to support capital work equipment ($5.0 million), maintain an inventory of repair parts ($2.5 million), provide local matches ($2.0 million), and fund ongoing station maintenance, such as painting, relamping, reroofing, and resurfacing of parking lots ($2.6 million). Without these allocations, critically needed projects would have to be delayed or cancelled. As shown in Figure 4-2, annual capital allocations of $12.1 million growing by inflation to $15.3 million are provided in FY02 through FY10.

Total Debt Service and Allocations

Based on the above considerations, BART's total debt service and allocations are forecast to be $70.3 million in FY01. By FY10, debt service and allocations reach a high of $89.8 million.

Cost Containment and Revenue Enhancements

The draft FY01 SRTP projects that BART will implement some combination of cost containment and revenue enhancement measures over the next ten years.

With the ten year $5.1 billion program (representing Operating Expenses in combination with Debt Service & Allocations) presented in this SRTP's base forecast, every 1% savings realized from conservative planning and budgeting practices and cost saving measures translates into approximately a $50 million reduction in total program costs. Likewise, with a ten-year $5 billion program of revenue, tax, and financial assistance, 1% increase could translate into an additional $50 million in revenue. This SRTP assumes that some combination of cost containment and revenue enhancement measures totaling approximately 2% of the total ten-year programs will be implemented in the next ten years. Specific strategies will be developed as needed and will be implemented as part of the annual budget process.

Costs

The District employs a conservative approach to planning, budgeting, and budget management. Inherent in this process are ongoing efforts to evaluate all line-item expenses to identify opportunities to contain costs and increase productivity. This management approach has enabled BART to make optimal use of funds and to continue to improve the system. The financial forecast assumes BART will continue to prudently manage its operations during the current SRTP planning period, consistent with past practices.

BART continues to reap the benefits of the expanding economy and cost cutting measures implemented years ago. Negotiations with power providers have already generated significant annual savings. In addition, projections indicate that the District will be able continue to reduce its contributions towards meeting projected pension obligations. Lastly, BART has enjoyed favorable year-end operating budget balances, which have enabled the District to contribute significant funds to its capital needs, particularly seismic retrofit.

BART's ability to overcome possible future financial challenges is underscored in Figure 4-3, which identifies actual fiscal year expense for fiscal years 1986 through 1999. Actuals are compared to the corresponding expense identified in each fiscal year's adopted budget. This comparison also includes the forecasts of expense identified in the SRTPs, which were published five years earlier. By fiscal year, actual expenses average 1.3% less that the adopted budget and 15.8% less that the SRTP forecast developed five years before.

As this figure indicates, the District has a record of consistently managing its expenses. It is reasonable to assume, as this base forecast does, that this trend will continue. If the past holds any lessons for the future, it is that the District will continue to evaluate all aspects of how it conducts business, both at the macro and micro levels; and that future implementation of cost containment measures will occur as BART continues to prudently manage its operations.

Figure 4-3 Forecasts vs. Actual Expense

(Dollar figures in millions)

Fiscal Year	Actual Expense	Adopted Budget, 1-Yr Look		SRTP, 5-Yr Look	
		Forecast	% vs Actual	Forecast	% vs Actual
86	$160.9	$163.9	1.9%	$185.7	15.4%
87	$162.2	$174.5	7.6%	$198.0	22.1%
88	$167.8	$171.8	2.4%	$205.4	22.4%
89	$172.2	$174.6	1.4%	$224.9	30.6%
90	$193.0	$193.3	0.2%	$220.4	14.2%
91	$206.6	$208.2	0.8%	$236.8	14.6%
92	$213.7	$219.9	2.9%	$223.7	4.7%
93	$210.4	$213.0	1.2%	$217.0	3.1%
94	$217.4	$220.3	1.3%	$233.6	7.5%
95	$218.3	$227.0	4.0%	$256.0	17.3%
96	$244.3	$240.1	-1.7%	$297.1	21.6%
97	$267.7	$269.1	0.5%	$319.7	19.4%
98	$296.2	$288.9	-2.5%	$344.9	16.4%
99	$294.1	$300.3	2.1%	n/a	n/a
Average	—	—	**1.3%**	—	**15.8%**

- Variances in forecast vs. actual expense reflect efforts to contain and/or reduce costs as well as changes in assumptions for extension start dates, fleet size, and CPI.

A specific cost containment could include continued suspension of PERS payments. BART has conservatively assumed, based upon actuarial studies, that PERS obligations partially resume in FY05. Continued suspension of payments could save BART several million dollars of projected annual expense. Refinancing of outstanding bond obligations with more favorable interest rates could lower annual debt service expense. Additionally, BART will continue to look for ways to streamline the cost of providing service to passengers.

Revenues

As far as revenue enhancement is concerned, the strong ridership growth seen over the past few years has resulted in a higher ten year forecast for passenger revenue. Additional revenue is also projected over the SRTP planning period due to executed contracts with advertisers and fiber optic providers, both of which may be capable of generating further additional revenue in the future. The bases for financial assistance revenues have also been adjusted upward to recognize the recent strength in sales tax and property tax collections.

One revenue enhancement strategy could include increases to passenger fares. The Strategic Plan acknowledges the need for BART to keep fares current with increases in the cost of living by planning for periodic CPI-based fare increases. The last BART fare increase occurred over three years between FY95 and FY97. Depending on a need and the availability of other revenues it is not unreasonable to anticipate that one or more CPI-based fare increases could occur in the ten-year time horizon of this financial plan. A single fare increase, at the projected annual inflation rate of 3.0%, could generate approximately $6 to $8 million dollars annually, depending on the year implemented. Over the SRTP time frame, that single increase, equal to only one-tenth of the projection inflation increase, could yield up to $70 million in additional revenues for BART.

Pursuant to the Strategic Plan, the BART Board is also developing a Policy Framework for Access Management and Improvement. One of the strategies included in the framework commits BART to seek grants, rely on BART resources, pursue public/private partnerships, and consider parking charges and fees for service to help offset costs of new services, programs, and improvements in a cost effective manner. Any one of these revenue sources could enhance BART revenues in the next ten years.

Finally, additional revenue could be generated from fiber optic joint development agreements and sales and licensing of technologies developed by BART staff. This SRTP financial plan conservatively forecasts revenue from executed contracts. BART continues to negotiate with interested parties and could realize several million in additional annual revenues from future contracts.

The District has risen to the challenge of large funding needs in the past. In May 1994, the District and the MTC jointly adopted a cooperative funding program to address BART's most immediate needs for system renovation. This agreement, MTC Resolution 2672, called for the MTC to program $450.8 million for BART renovation projects, and for BART to internally generate $200.5 million as its match to the proposed grant funds. In fact, BART generated substantially more than the agreed upon $200.5 million, and funded additional essential capital projects beyond the scope of the agreement with the MTC. The strategy for raising the funds needed for system renovation included a series of bond issues and a three-year fare increase package adopted in January 1995. The debt service requirement for these bonds is covered by this fare increase package. This demonstrates that the District is capable of addressing any potential future financial challenges as they arise.

Financial Performance Indicators

Farebox Recovery Ratio

As documented in Figure 4-4, the farebox recovery ratio for rail operations, the ratio of rail passenger revenue to rail passenger expense, is forecast to start out at 62% in FY01 and remain fairly constant at 60% to 61% through FY05. Assuming no fare increases in the SRTP period, the rail farebox recovery ratio then declines to 53% by FY10. Small periodic fare increases equal to or less than annual CPI would maintain these indicators at their current levels or result in improved levels. The ADA paratransit farebox recovery ratio is forecast to remain at 6%, declining slightly to 5% by FY10. The systemwide farebox recovery ratio, rail and ADA paratransit fares divided by total operating costs, is forecast to be 59% in FY01, growing to 61% by FY04 before declining to 54% in FY10.

Operating Ratio

The system operating ratio, which is defined as all operating revenue generated, including advertising, interest, fiber optic, and other types of revenue, divided by total operating expense, is forecast to be 65% in FY01, peaking at 66% in FY04, and gradually decreasing to 58% in FY10. Again, this indicator could be maintained at its current level, or even improved, with small fare increases far less than the projected cumulative CPI, or with other revenue enhancements or cost containment efforts.

Rail Cost per Passenger Mile

BART's rail cost per passenger mile is projected to be 26.4¢ in FY01. This indicator is maintained at approximately this level through FY05, when annual percent growth in operating costs in excess of passenger mile growth. By FY10, growth in these unit costs is projected to increase the indicator to 30.5¢. Stronger than forecast ridership growth, or containment of operating costs at less than CPI or planned service increases, could maintain or improve this indicator.

Debt Capacity

Debt capacity is defined as the projected financial ability to pay debt service on outstanding bond issues. Senior lien debt capacity is calculated as total projected sales tax financial assistance divided by total annual debt service. During the current ten-year outlook, the ratio ranges from a low of 3.26x to 4.50x, indicating strong ability to fund debt service from current sources. Net debt capacity is a more conservative approach to the same calculation. The projected net operating result (operating revenues less operating expenses) plus projected sales and property tax financial assistance is divided by total annual debt service. This ratio is projected to range from 1.39x to 1.17x during the coming ten years.

Figure 4-4 Forecast Financial Performance Indicators

	FY01 Rev Prelim Budget	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Rail Farebox Recovery Ratio	61.7%	59.9%	61.1%	61.0%	60.4%	59.5%	58.0%	56.2%	54.7%	53.4%
Paratransit Farebox Recovery Ratio	6.4%	6.3%	6.2%	6.1%	5.9%	5.8%	5.7%	5.6%	5.5%	5.4%
System Farebox Ratio	59.5%	57.9%	60.7%	60.8%	60.4%	59.6%	58.2%	56.4%	55.0%	53.6%
System Operating Ratio	65.0%	63.3%	65.8%	65.8%	65.4%	64.5%	63.1%	61.2%	59.7%	58.4%
Rail Cost Per Passenger Mile	26.4¢	27.4¢	26.8¢	26.8¢	27.1¢	27.5¢	28.2¢	29.0¢	29.8¢	30.5¢
Senior Lien Debt Coverage Ratio	3.39	3.26	3.30	3.45	3.61	3.77	3.94	4.12	4.31	4.50
Net Debt Service Coverage Ratio	1.39	1.21	1.28	1.35	1.37	1.37	1.34	1.25	1.20	1.17

ALTERNATIVE FUTURES

The District has achieved the solid financial position it is in today because it has managed its finances prudently and well. Maintaining the District's financial health over the next decade will require continued fiscal prudence and could require even more diligent financial management because the District faces growing uncertainties in a number of areas.

To understand the impact of uncertainty on BART's financial future, it is important to understand that the base financial forecast included in this SRTP is predicated on a series of key assumptions regarding economic and service factors driving ridership, revenues, and costs. The financial bottom line is extremely sensitive to even small changes in forecast levels for each line item. Categories having the largest effect on the overall financial plan include passenger revenue, sales tax, labor costs and non-labor costs. A 0.5% increase or decrease in the annual growth of ridership could add to or decrease net rail passenger revenues over the next ten years by approximately $60 million. Likewise, a change of 0.5% in annual growth of sales tax revenues could add or take away approximately $50 million in financial assistance over ten years. Changes of 0.5% to the District's annual rate of net labor cost increase could increase or decrease net operating expenses by nearly $75 million by FY10. And a change in the annual rate of non-labor cost increase of 0.5% could decrease or add to the bottom line by almost $30 million.

There are four particular areas of uncertainty that need to be monitored and managed very carefully over the next few years because they have the potential to significantly impact BART's long term financial situation.

The first area of focus is ridership and passenger revenue. In the past year, ridership has grown so quickly that it is now at a level the FY00 SRTP predicted would not be reached until FY04. Capital projects planned to serve future ridership growth are now needed four years earlier. This phenomenal ridership growth has also place new demands on the operating budget. The increased ridership has resulted in additional passenger revenue, but the increase in expense has been commensurate. Service changes to handle the increased passengers have been funded in FY00 and budgeted for FY01, and beyond. This year's SRTP assumes the ridership gain of the past year will be sustained but that the annual rate of growth will slow to between one and two percent in future years. Given the unprecedented and unexpected growth BART experienced this past year, future ridership is fundamentally very difficult to predict. On the one hand, ridership could continue to grow at faster than the growth rate predicted by the SRTP, accelerating still more the need for system capacity improvements. To accommodate this possibility the District should and is pursuing funding for out year capacity programs included in the CIP. There is also a possibility that current ridership levels will not be sustained over the next several years. To mitigate the impacts of this possibility, BART should and is being careful about building new costs into the operating base. Budget changes to accommodate additional ridership have included both ongoing and one time funding programs. The one-time investments leave the District more flexibility in responding to future ridership changes.

A second focus area is economic growth. The Bay Area has experienced an economic growth cycle of unprecedented duration. The Bay Area economy impacts both BART revenues and expenses. On the revenue side, the economy affects ridership (as discussed above) and sales tax growth. This SRTP assumes a 4.8% growth rate in sales tax in future years. But this growth rate is extremely difficult to predict in today's dynamic and rapidly changing economic environment. The growth of internet sales, which could also impact future sales tax growth, adds another element of uncertainty. Bay Area economic growth also impacts costs. This SRTP assumes that labor wage and non-labor costs will increase at a CPI based 3.0%. If inflation increases faster, BART expenses will increase faster as well. Again, a prudent financial strategy of investing current sales tax revenues in a mix of ongoing and one time expenditures appears to be the best way to meet system needs and remain somewhat flexible in the face of growing economic uncertainty relative to both revenues and costs.

Customer expectations are a third area of focus and ongoing uncertainty in BART's future. The base financial forecast in this SRTP assumes that customer satisfaction will remain at least at current levels. Although customers give BART high ratings for service and perceived value, the Strategic Plan commits to continually improving customer satisfaction. BART's ability to achieve this goal depends on careful monitoring of customer needs and expectations so the system in a position to understand and respond to changes and expectations. BART's ability to achieve the Strategic Plan goals also depends on prudent financial management. Existing resources will need to be carefully invested. Additional investments to improve the customer experience will depend on productivity gains, revenue enhancements, or revenue growth in excess of levels forecast in the base financial plan.

Finally, a fourth area of uncertainty involves long term investments in both people and physical infrastructure. BART's workforce is changing. Many employees will retire in the next decade. They will be replaced by new employees who will require training, and who may have different needs and expectations than the earlier generations of BART employees. It will be important to stay in touch with changing employee expectations and to respond appropriately. BART's physical infrastructure, as noted earlier, is both aging and reaching capacity. And many of BART's core business systems are reaching twenty years of age. Pursuant to the Strategic Plan, BART has embarked on several studies of long term renovation, capacity expansion, and business modernization needs. The results of these studies could point to the need for operating and capital investments in excess of what is currently included in this year's SRTP and CIP. These needs, and associated strategies for funding them, would need to be addressed in future ten-year plans.

Conclusion

As described in this draft FY01 Short Range Transit Plan, BART's future includes substantial changes and capital needs which will be addressed over the course of the next decade. From an operations perspective, BART will continue to implement system renovation and service expansion programs. The District is committed to provide uninterrupted high-quality service through this transition period. This commitment can and will be achieved through continued planning and evaluation, effective and efficient management, and prudent financial decisions. These keys to success will enable BART to continue to provide safe, reliable, and efficient transportation well into the next century.

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